
THE
MOTOR
OWNER
PUBLISHED MONTHLY
PRICE ONE SHILLING
FORSTER



'Best in the long run'

BE SAFE!

FIT YOUR CAR WITH GOOD*RICH* SAFETY TREAD TYRES

There's an active 'safety' principle in every inch of the Good*rich* Tyre

EVERY motorist knows the real danger of the skid—how it lurks in every bend of a wet road and in every change of speed on a greasy surface. But the skid *can* be avoided, as every experienced driver knows. It all depends on the tyres you fit. The Good*rich* Safety Tread Tyres provide an active safety principle, without loss of speed or resiliency, without increase of weight or cost. The Good*rich* five-fold grip is moulded into the tread and forms a natural part of the tyre itself. On wet and greasy surfaces this safety tread grips right down to the road and does not merely travel over the surface grease. It tends to transmit safety by forming a safety track.

The Good*rich* Safety Principle is equally effective on all cars, all roads, and entails no penalty of speed comfort or cost.

We invite your enquiries.

THE B. F. GOODRICH CO. LTD.
117-123, Golden Lane, London, E.C.1.

GOODRICH TYRES
SAFETY TREAD

Duco

(Grease-tight)

SPRING GAITERS

PATENTED IN ALL COUNTRIES



Thanks, that was the most comfortable run I've ever had. What's the secret? No secret, she's fitted with DUCO SPRING GAITERS & runs like silk



Write for "Duco" Booklet,

BROWN BROTHERS LTD Gt Eastern Street LONDON, E.C. 2.

MANCHESTER, DUBLIN, PARIS & MELBOURNE.

20-25 H.P.

ANDERSON 6

THE 20-25 h.p. Anderson semi-sporting car is a modish roadster for two, convertible into a roomy 5-seater by simply opening the rear compartment.

It solves the perplexing question: "A roadster or a touring car?"

Buy the Anderson and you have both.

PRICE COMPLETE
625 GUINEAS

THE H·C·M OTOR COMPANY LIMITED

347 FINCHLEY RD., LONDON, N.W.3

Telephone: Hampstead 4631
Grams: "Aichsemoto, Swiss, London."



CONVERT YOUR EXISTING "FORD" INTO A NEW CAR.

THE above illustration shows one of our converted Ford Cars, and we can turn your existing "Ford" into the same luxurious automobile. There are many "Ford" owners who, while appreciating the mechanical and general excellence of the Ford chassis, desire additional comfort as far as the body is concerned. To meet this demand we have produced the above illustrated conversion set which we are confident will be greatly appreciated. The price of the conversion is exceedingly reasonable, and you will have what is to all intents and purposes a brand new car when the conversion is completed. Our demonstration car is built up purposely upon a Ford chassis which has seen considerable service as an ambulance under war conditions.

SPECIFICATION.

Ford four-seater touring body.
Adjustable front seats.
New taper bonnet.
Special domed Mudguards.
Special raked steering.
Five Riley Detachable Wheels.
Electric side and tail lamps lit from Battery.
Body painted any colour to suit customer
Rubber Pedal Covers.
One man Hood.
One piece adjustable screen.
Petrol Tank under the Dash.
Special running boards.
Aerolite Pistons fitted to Engine.
Five sets of discs.
Head Lamps lit from Ford Magneto.
Zenith Carburetter, (making it possible to use Benzol).

Complete conversion effected within five weeks from receipt of your car.

PRICE OF CONVERSION - £195

Make an appointment and try our demonstration car. You will be astonished at the improvement in the running and comfort of the car.
We are Special Agents for: A.B.C., A.C., BUICK, DODGE, HILLMAN, and LANCHESTER CARS. Any other make can be supplied
We also supply guaranteed second hand cars or will buy your second-hand car from you.
We are always pleased to arrange deferred payments for our clients on the most favourable terms it is possible to obtain.

GEORGE ENGLAND, LTD.

AUTOMOBILE · AGENTS · AND · ENGINEERS

Head Office: HERSHAM ROAD, WALTON-ON-THAMES 'Phone 161 Walton on-Thames
ST. GEORGE'S HOUSE, 193 REGENT STREET, W.1 Phone: 414 Regent

GUARANTEED
TWELVE MONTHS



English built
Coupé £750

Other Coach-work to order

PRICE COMPLETE

£575

Fitted with English built Sporting four-seater - £650

BOOK NOW FOR AUTUMN DELIVERY

America's Best Light Six

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TWENTY

SOUTHGATE LTD.

Sole Concessionnaires for G. B. & I

Showrooms : 19-21 Heddon St., Regent St., London, W.1

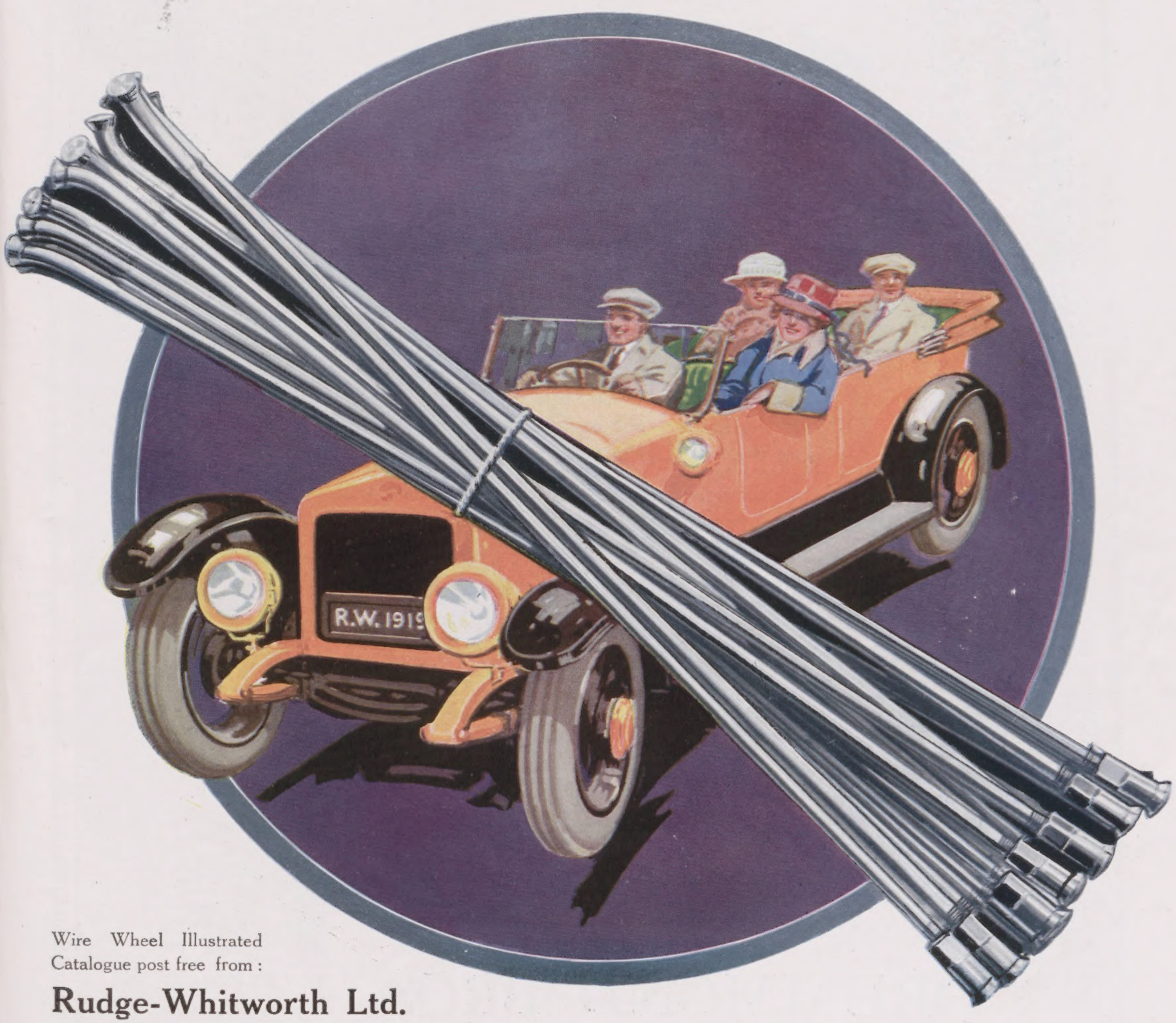
Telegrams : "OMAISOBEME, REG. LONDON."

Rudge-Whitworth
Detachable Wire Wheels

BY APPOINTMENT

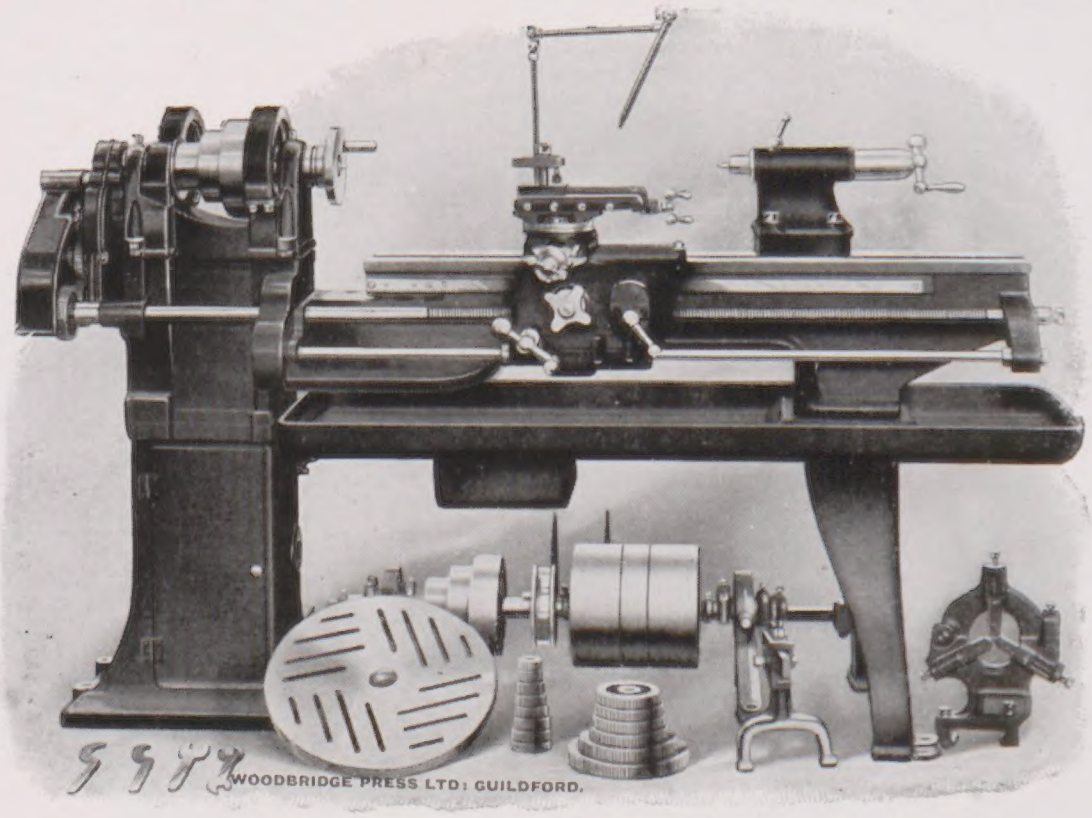
Lightness the Keynote of Economy

The seventy spokes connecting the hub to the rim weigh 5 lb., and are proved by 15 years use and War strong enough for the heaviest and most powerful car.



Wire Wheel Illustrated
Catalogue post free from :

Rudge-Whitworth Ltd.
(Dept. 17), - COVENTRY



THIS border is a photograph of a steel shaving from the lathe illustrated.

Instal a lathe in your garage—not to make ornamental shavings, but to save expensive repair bills and annoying delays.

With a lathe in the garage you can do at once all those little, but very necessary, repairs which, if neglected, mean ultimately a breakdown and an extensive repair.

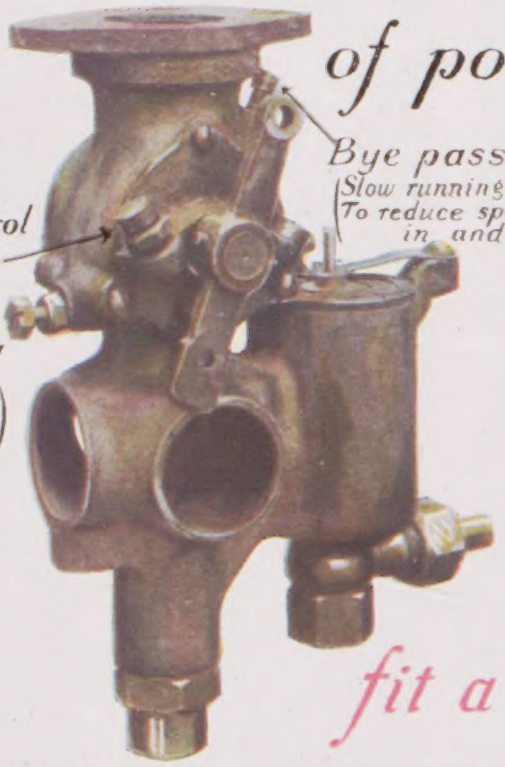
If any instructions in lathe work are needed we give them free.

For full particulars of Drummond Garage Lathes write—

DRUMMOND BROS. LTD.

RIDEHURST WORKS - GUILDFORD

To get that last ounce of power,

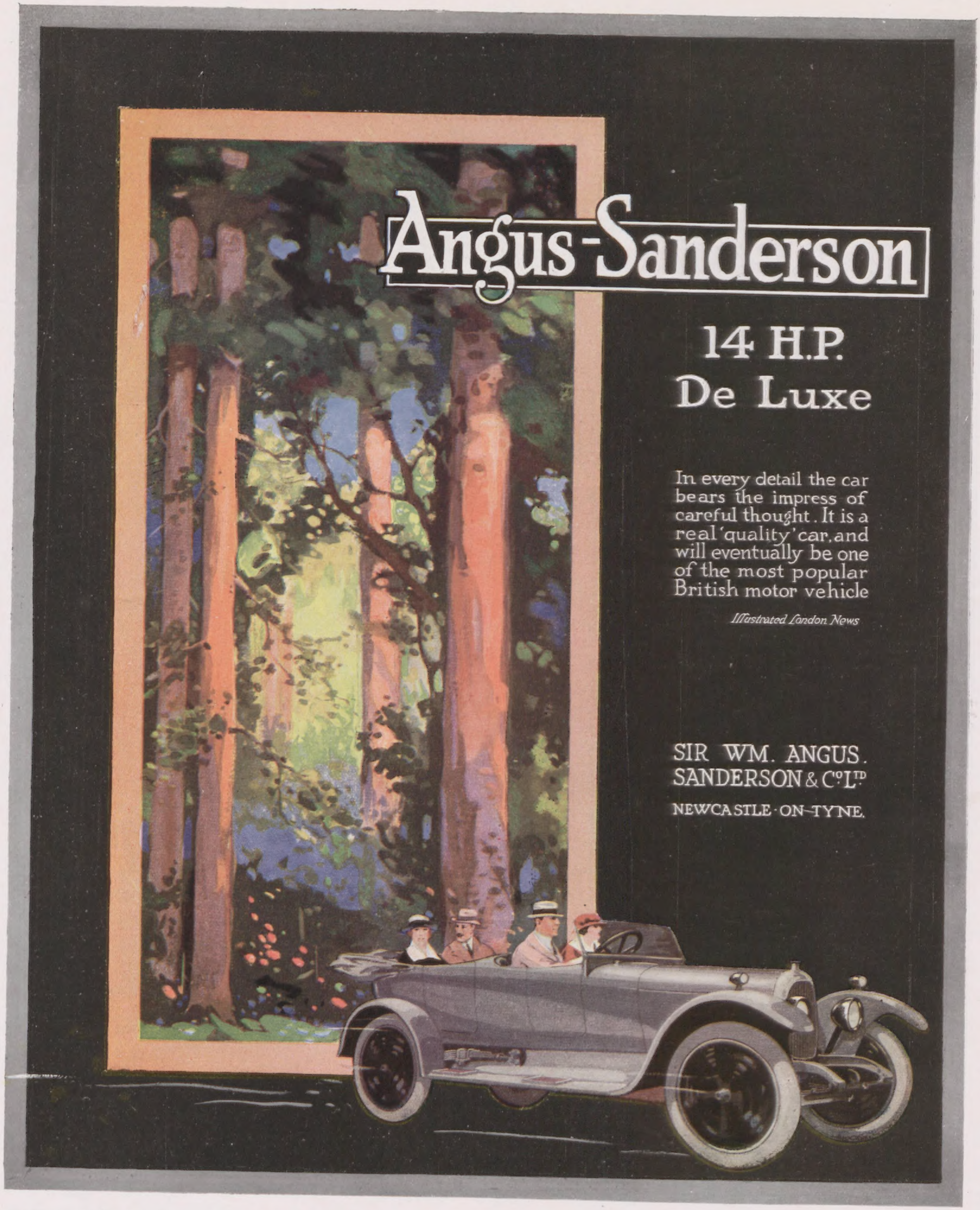


fit a

Claudel-Hobson

CARBURETTER

H.M. HOBSON Lᵀᴰ 29 VAUXHALL BRIDGE RD.,
LONDON. S.W.1.


Angus-Sanderson
14 H.P.
De Luxe
In every detail the car bears the impress of careful thought. It is a real 'quality' car, and will eventually be one of the most popular British motor vehicle
Illustrated London News
SIR WM. ANGUS. SANDERSON & Co LTD
NEWCASTLE-ON-TYNE.

DANIEL SMITH, OAKLEY, & GARRARD

LAND AGENTS, SURVEYORS, and AUCTIONEERS

ANNOUNCEMENT OF FORTHCOMING SALES

By Order of the Executors of DR. SHADWELL, late Provost of Oriel College, Oxford.

MIDDLESEX.

Adjoining NORTHOLT HALT STATION (G.W.R.), between HARROW and SOUTHALL.

THE VERY VALUABLE AGRICULTURAL PROPERTY (with Building Attractions) known as the

NORTHOLT ESTATE.

situated in the parishes of Northolt and Ruislip, and including THREE GOOD FARMS known as

COURT, MANOR, and SMITH'S FARMS,

each with HOUSE and HOMESTEAD. VALUABLE ACCOMMODATION LAND, EIGHTEEN COTTAGES, and TWO LICENSED HOUSES known as the

"LOAD OF HAY" and "THE CROWN INN,"

all in the village of Northolt and covering an area of about

540 ACRES.

MESSRS. DANIEL SMITH, OAKLEY, & GARRARD will offer the above PROPERTIES for SALE by AUCTION, in lots, at Winchester House (Room 47), Old Broad St., E.C.2

On TUESDAY, 16th SEPTEMBER, 1919,

At 2.30 o'clock PRECISELY.

For further particulars, apply to the—

Solicitors: Messrs. Nicholl, Manisty & Co., of 1, Howard Street, Strand, W.C.2.

Land Agent: Edward J. Rose, Esq., 58, Cornmarket Street, Oxford; or the

Auctioneers: 4-5, Charles Street, St. James's Square, S.W.1.

Telephone: Gerrard 5240 and 5241. Telegrams: Yelkao, Charles, London.

By Order of MRS. S. M. CROSSLEY.

SOMERSET.

About three miles from Langport.

THE BEAUTIFUL RESIDENTIAL and AGRICULTURAL ESTATE known as

BURTON PYNSENT.

With excellent Georgian Residence, recently restored, standing on high ground commanding glorious views over Sedgemoor and the surrounding country. The Estate possesses some very fine timber and ornamental trees, together with modern Stabling, Model Farm Buildings, &c., and Five Cottages, the whole extending to about

293 ACRES.

MESSRS. DANIEL SMITH, OAKLEY, & GARRARD are instructed to offer the above PROPERTY for SALE by AUCTION at Winchester House (Room 47), Old Broad Street, E.C.2,

On THURSDAY, 2nd OCTOBER, 1919,

(unless previously disposed of by Private Treaty).

Further particulars and orders to view may be obtained from the—

Solicitors: Messrs. Lee and Pembertons, 44, Lincoln' Inn Fields, W.C.2.

Auctioneers: 4-5, Charles Street, St. James's Square, S.W.1.

Telephone: Gerrard 5240 and 5241. Telegrams: Yelkao Charles, London.

By Order of JAMES CHAPMAN, Esq.

KENT.

In the well-known fruit and market garden district, close to

SWANLEY.

on the S.E. and C. Railway.

Valuable FRUIT FARMS, Small Holdings, Accommodation Lands, Two Licensed Premises, Cottage Property, Woodland, &c., being portions of

THE PAULS CRAY HILL ESTATE,

Situated in the Parishes of St. Pauls Cray, St. Mary Cray, North Cray, Sutton-at-Hone, and Dartford, extending to an area of about

1,080 ACRES,

and PRODUCING an ANNUAL RENT ROLL of about

£2,900

(excluding the woods and all lands in hand).

MESSRS. DANIEL SMITH, OAKLEY, & GARRARD are instructed to offer the above PROPERTIES for SALE by AUCTION, in Lots, at Winchester House (Room 47), Old Broad Street, E.C.2.,

On THURSDAY, 2nd OCTOBER, 1919,

(unless previously sold privately).

For further particulars, apply to the—

Solicitors: Messrs. Trower, Still, Parkin & Keeling, 5, New Square, Lincoln's Inn, W.C.2.

Agent: Octavius Knox, Esq., Abinger Hammer, Dorking, Surrey.

Auctioneers: 4-5, Charles Street, St.James's Square S.W.1.

By Order of HIS GRACE the DUKE OF LEEDS.

YORKSHIRE.

Within a few miles of Bedale.

FOUR COMPACT FARMS, comprising Butterwell, Northfield, Cobshaw, and East Appleton Farms, THREE SMALL HOLDINGS, a FULLY LICENSED INN, COTTAGE PROPERTY, ALLOTMENT GARDENS, &c., being the outlying portions of

THE NORTH RIDING ESTATE,

situated in the Parishes of Patrick Brompton and Langthorne, extending to a total area of about

805 ACRES,

and PRODUCING a TOTAL RENT ROLL of about

PER £1,120 ANNUM.

MESSRS. DANIEL SMITH, OAKLEY, & GARRARD are instructed to offer the above PROPERTY for SALE by AUCTION.

IN SEPTEMBER NEXT

(unless previously disposed of privately).

For further particulars, when ready, apply to the—

Solicitors: Messrs. Lowe & Co., 2, Temple Gardens, Temple, E.C.4.

Resident Agent: O. W. Hunt, Esq., Estate Office, Hornby Castle, Bedale; or to the

Auctioneers: 4-5, Charles Street, St. James's Square, S.W.1.

Telephone: Gerrard 5240 and 5241. Telegrams: Yelkao Charles, London.

MORNINGTON CRESCENT.

Adjoining the Tube Station, and with frontages to the Hampstead Road and Mornington Crescent.

AN EXCEPTIONALLY FINE BUILDING SITE, extending to

ABOUT 4½ ACRES

of

MOST VALUABLE FREEHOLD BUILDING LAND, affording a most unusual opportunity to Builders, Manufacturers, and others requiring large sites for works or residential dwellings, or to Investors for development.

The above PROPERTY will be offered for SALE by AUCTION,

AT AN EARLY DATE

(unless previously disposed of by Private Treaty.

For further particulars and plans apply to—

MESSRS. DANIEL SMITH, OAKLEY, & GARRARD, 4-5 Charles Street, St. James's Square, S.W.1.

Telephone: Gerrard 5240 and 5241. Telegrams: Yelkao, Charles, London.

DEVONSHIRE.

NEAR EXETER.

A very attractive FREEHOLD RESIDENTIAL, SPORTING AND AGRICULTURAL PROPERTY, known as the

HALDON ESTATE,

occupying a fine position about four miles from Exeter, with magnificent views, including Dartmoor and the Estuary of the Exe, and having considerable sporting attractions.

THE MANSION,

which dates from early in the 18th Century, and has been considerably improved from time to time, is substantially built and overlooks a beautifully timbered undulating Park, with well laid out pleasure grounds, also

EIGHT GOOD FARMS,

Small Holdings and Cottages, and valuable woodland, the whole covering, an area of about

2,830 ACRES,

and producing a RENT ROLL of about

£2,227

(exclusive of MANSION, PARK, WOODLAND AND HOME FARM).

POSSESSION OF THE MANSION AND LANDS IN HAND WILL BE GIVEN ON COMPLETION.

MESSRS. DANIEL SMITH, OAKLEY, & GARRARD have received instructions to offer the ESTATE for SALE BY AUCTION

IN THE AUTUMN,

unless previously disposed of privately.

For further particulars apply to the—

Solicitors: Messrs. Kirby, Millett and Ayscough, 2 & 3, The Sanctuary, Westminster, S.W.1.

Agents: Messrs. Ellis, Son & Bowden, Bedford Chambers, Exeter.

Auctioneers: Messrs. Daniel Smith, Oakley, & Garrard, 4-5, Charles Street, St. James's Square, London, S.W.1.

Telephone: Gerrard 5240 and 5241. Telegrams: Yelkao, Charles, London.

By Order of Major F. J. B. Wingfield Digby, D.S.O

SOMERSET and DORSET.

Outlying Portions of the

SHERBORNE CASTLE ESTATE,

embracing

ELEVEN CAPITAL DAIRY and ARABLE FARMS, including

NEW OAKLEY FARM, in the parish of Limington; CHURCH FARM, PUDDIMORE FARM, and LOWER FARM, in the parish of Podimore; DOWNHEAD FARM and LOWER FARM, in the parish of West Camel; JUBILEE FARM and HIGHER NYLAND FARM, in the parish of KINGTON MAGNA; and BOYS HILL FARM, in the parish of Holnest; together with

SEVERAL SMALL HOLDINGS, "THE BUTCHERS' ARMS," HAINBURY MILL, ACCOMMODATION LANDS and COTTAGES,

the whole covering an area of about

2,000 ACRES.

MESSRS. DANIEL SMITH, OAKLEY & GARRARD will offer the above Properties for SALE by AUCTION, in numerous Lots, at the DIGBY HOTEL, SHERBORNE.

On THURSDAY, 18th SEPTEMBER, 1919,

At 2.30 P.M. PRECISELY.

For Particulars, Plans, and Conditions of Sale apply to:—

Agents: Messrs. Rawlence & Squarey, Salisbury, and 3A, Dean's Yard, Westminster, S.W.1.

Solicitors: Messrs. Dawson & Co., 2, New Square, Lincoln's Inn, W.C.2.

Auctioneers: Messrs. Daniel Smith, Oakley, & Garrard, 4-5, Charles Street, St. James's Square, S.W.1.

Telephone: Gerrard 5240-5241. Telegrams: Yelkao, Charles, London.

NOTTING-HILL, W.

TO BE SOLD WITH POSSESSION ON COMPLETION.

The CHARMING FREEHOLD RESIDENCE known as

54, LADBROKE GROVE,

containing

eight bed and dressing rooms, three reception rooms, oak panelled hall and vestibule, bath room, four w.c.'s, and excellent light domestic offices; electric light throughout.

Backing on to extensive private gardens.

The House is in excellent order and may be confidently recommended to all who are seeking a moderate sized house in this favourite quarter.

For further particulars apply to—

MESSRS. DANIEL SMITH, OAKLEY, & GARRARD, 4-5, Charles Street, St. James's Square, S.W.1

Or to Messrs. Thomas Eggar & Co., Solicitors, 9. Old Steyne, Brighton.

BY ORDER OF TRUSTEES.

KING'S CROSS.

PART OF THE BATTLE BRIDGE ESTATE.

The Important PARCELS of

FREEHOLD PROPERTIES AND GROUND RENTS,

WITH EARLY REVERSIONS IN MANY CASES, as set out hereunder:—

	Description.	Total Ground Rents. £ s.	Date of Reversion.
1.	34-44 (even), Britannia Street ..	30 0	1946
2.	165-171 (odd), King's Cross Road; 4-12 (even), Britannia Street; 14-24 (even), Britannia Street (Area about 17,000ft.)	80 0	1925 (yearly tenancies.)
3.	7, 9, 11, Britannia Street	31 10	1930
4	149-163 (odd), King's Cross Road; 1, 3, 5, Britannia Street .. (Area about 11,500ft.)	55 0	1926
5.	143, 145, 147 (odd), King's Cross Road	140 0	1921
6.	139, King's Cross Road	8 0	1936
7.	3, Wicklow Street	4 0	1936
8.	5-11 (odd), Wicklow Street ..	42 0	1972
9.	19-29 (odd), Wicklow Street .. (Area about 4,300ft.)	18 0	1939
10.	47, Wicklow Street	7 0	1959
	49, Wicklow Street	10 0	1926
	51, 53, 55, Wicklow Street .... (Area about 3,700ft.)	31 10	1930
11	57-67 (odd), Wicklow Street .. (Area about 4,400ft.)	15 0	1927

MESSRS. DANIEL SMITH, OAKLEY, & GARRARD are instructed to offer the above PROPERITES for SALE by AUCTION, in Lots, at Winchester House (Room 47) Old Broad Street, E.C.2,

On THURSDAY, 30th OCTOBER, 1919,

At 2.30 o'clock PRECISELY.

(unless previously sold by Private Treaty).

For further particulars apply to—

Solicitors: Messrs. Lucas & Sons, 21, Surrey Street, Victoria Embankment, W.C.2; or to the

Auctioneers: 4-5, Charles Street, St. James's Sq., S.W.1.

Telephone: Gerrard 5240 and 5241. Telegrams: Yelkao, Charles, London.

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4 & 5, CHARLES STREET, ST. JAMES'S SQUARE, S.W.1

TELEPHONE, GERRARD 5240 and 5241. TELEGRAMS, YELKAO, CHARLES, LONDON

FAREBROTHER, ELLIS & CO.

LAND AGENTS, AUCTIONEERS AND SURVEYORS

Telephones: HOLBORN 6344 and 6345.

29 FLEET ST., LONDON, E.C.

Telegrams: FAREBROTHER, LONDON.

STOKE PARK

IPSWICH

A Noble Mansion in Well-Timbered Park of 300 Acres.



Commanding Extensive Views.

5 Reception Rooms. 30 Bed and Dressing Rooms. Billiard Room. 5 Bath Rooms (h. & c.) Complete Domestic Offices. 3 Lodges. Cottages. Stabling for 10 Horses. Extensive Pleasure Gardens & Grounds.

HOME FARM. PLANTATIONS. WOODLANDS.

FOR SALE. Specially recommended by the Sole Agents.

FAREBROTHER, ELLIS & Co., 29, Fleet St., E.C.

SUSSEX and KENT

In the heart of a beautiful part of the Country

CHOICE RESIDENTIAL PROPERTY



Beautiful Situation. South Aspect.

Lounge Hall. 12 Bedrooms. 3 or 4 Reception Rooms. 5 Bath Rooms (h. & c.) Electric Light. Radiators. Garage. Stabling. Entrance Lodge. Charming Ornamental Gardens. Wood and Farmland.

ABOUT 80 ACRES.

FOR SALE with immediate possession.

FAREBROTHER, ELLIS & Co., 20, Fleet St., E.C.4.

By direction of Admiral R. P. Purefoy.

PRELIMINARY NOTICE.

BUCKINGHAM and BRACKLEY

(Midway between)

TWO FARMS known as "Wood Green" and "Hill and Hunt Mill" at Shalstone, comprising an area of

ABOUT 517 ACRES

with excellent Houses, 2 Cottages, and good Buildings; let on yearly Michaelmas tenancies at rents amounting to £301 10s. PER ANNUM with advantage of POSSESSION AT MICHAELMAS, 1920.

MESSRS. FAREBROTHER, ELLIS & CO. will offer the above in 2 Lots at the "Swan and Castle" Hotel, Buckingham, towards the end of September unless previously sold privately.

Solicitors—Messrs. Sheard, Breach, Wace and Roper, Cromwell House, Surrey Street, London, W.C.2.

Land Agent—H. D. Egerton, Esq., 23, Lincoln's Inn Fields, W.C.2.

Auctioneers—Offices, 29, Fleet Street, London, E.C.4.

SURREY and SUSSEX.

8 Miles from Horsham.

Attractive Sporting and Pleasure Farm with a Gentleman's Residence

containing: Fine Entrance Hall, 4 Reception, 12 Bed Rooms, Bath (h. & c.), well arranged Offices, beautifully timbered Gardens and Grounds with Walled Tennis Court, Ornamental Fish Pond, etc.

TWO SETS OF FARM BUILDINGS

Ample Stabling accommodation, Cowsheds, Cottages, etc. The Farmlands are principally good pasture, with some arable, and 35 acres of Woodland, in all

NEARLY 200 ACRES. PRICE, £6,000.

Further particulars of—

FAREBROTHER, ELLIS & Co., 29, Fleet Street, E.C.4.

THE RIVIERA.

The present time offers a good opportunity for securing a choice Villa for the Winter Season. Messrs. Farebrother, Ellis & Co. have facilities for negotiating the letting, selling or purchasing of Land and Villas on the French and Italian Littoral.

HAMPSHIRE

Favourite District, One Mile from Main Line Station.

FOR SALE FREEHOLD with immediate possession. Stone built Residence situate in WELL TIMBERED PARKLANDS.

4 Reception Rooms. 17 Bed and Dressing Rooms. Gas and Water. Stabling for 8. Two Entrance Lodges. Gardener's Cottage. Delightful Pleasure Gardens and Grounds of 5 Acres SET OF FARM BUILDINGS, etc.

The whole comprising an AREA OF 107 ACRES.

FAREBROTHER, ELLIS & Co., 29, Fleet St., E.C.4.

ALFRED SAVILL & SONS

LAND AGENTS — SURVEYORS & AUCTIONEERS

51, LINCOLN'S INN FIELDS. LONDON. W.C.2.

(Branch Office at Combpyne. Devon)

By Direction of the Public Trustee

SUSSEX, GROOMBRIDGE



Between Ashdown Forest and Tunbridge Wells and one hour from London.

TO BE OFFERED BY AUCTION at Tunbridge Wells on Friday, October 3rd, 1919, in conjunction with Messrs Carter, Banks & Bennett.

THE RESIDENTIAL ESTATE known as

"LEYSWOOD"

comprising the

IMPOSING MANSION

by Norman Shaw, and containing six reception rooms, billiard room, fifteen principal bed and dressing rooms; with finely timbered pleasure grounds of great charm; extensive stabling, cottages, and home farm, the whole extending to

141 ACRES.

Solicitors, Messrs. INCE, COLT, INCE & ROSCOE, St. Benet's Chambers, Fenchurch Street, London, E.C.3 Auctioneers, Messrs. CARTER, BANKS & BENNETT, 7 London Road, Tunbridge Wells; Messrs. ALFRED SAVILL & SONS, 51 Lincoln's Inn Fields, London, W.C.2

To Be Let or for Sale

COOMBE LODGE, GREAT WARLEY

About two miles from Brentwood Station, and 25 minutes from town. 400ft. above sea level. Magnificent views.

A FINELY-BUILT MANSION,

admirably planned and luxuriously appointed, on gravel soil. The accommodation includes fine hall with oak staircase, five imposing reception rooms twenty-two bed and dressing rooms, five bathrooms, and complete domestic offices; central heating; Company's water; gas; stabling for nine, and secondary stabling in addition; lodge entrance, two gardener's cottages

GROUNDS OF GREAT CHARM

with delightful lawns with clumps of flowering shrubs, wild gardens, ornamental water, tennis and croquet lawns, kitchen gardens with sufficient glass, the whole extending to about

40 ACRES.



Further details and illustrated particulars of the Agents:

ALFRED SAVILL & SONS, 51, LINCOLN'S INN FIELDS, W.C 2

GODDARD & SMITH

AUCTIONEERS, SURVEYORS AND VALUERS

Telephone: Gerrard 2727 (3 lines)

196, PICCADILLY, LONDON, W.1

Telegrams "Goddarsmi, Piccy, London"



EAST ANGLIA

In the heart of the Pheasant Shooting District. An exceptionally fine Freehold Sporting Estate of over

2,600 ACRES

BRANDON PARK

SUFFOLK

This charming depicted Residence, well equipped, amidst well-established and beautifully Timbered Gardens and Grounds. Spacious Hall, 4 Reception Rooms, 20 Bed and Dressing Rooms, 2 Bath Rooms, and well shut-off, compact offices, all arranged on two floors.

ELECTRIC LIGHT. CENTRAL HEATING. TELEPHONE.
GOOD WATER SUPPLY. UP-TO-DATE DRAINAGE. SANDY SOIL.

Capital Garage, Stabling, Keepers' and Gardeners' Cottages. Two Lodge entrances. Tastefully displayed grounds. Tennis & Croquet Lawns. Walled Kitchen Garden. Abundance of Fruit. Orchard. Range of glass in first-class order.

A SMALL DEER FOREST

Well placed Coverts, Plantations, Woodlands. Small Farm with all the necessary buildings. Agent's House. About 150 acres arable all in hand.

The whole Estate is in good order, extremely well timbered, and forms a natural home for game, and is capable of rearing a large number of pheasants

---

For Sale by Private Treaty
or by Auction in the autumn



FULL ILLUSTRATED PARTICULARS OF

GODDARD & SMITH · · · · 196, PICCADILLY, LONDON, W.1.

The Reason Why

BECAUSE of the exquisite quality of my contents I am (and always must remain) a scarce article of commerce. Whisky cannot be made old except by keeping it

My managers have, with mature deliberation, resolved to cater only for those who are willing to pay the price for the very best article

There is not enough of my quality to allow of my being popular except amongst the select circles of discriminating users of alcohol

DOCTORS are calling for me
JUDGES are calling for me
MERCHANT PRINCES are calling for me

Are You?

Haig & Haig Five Stars Scots Whisky



IN the Home Market I am very scarce owing to Government restrictions. No new accounts can be opened at present

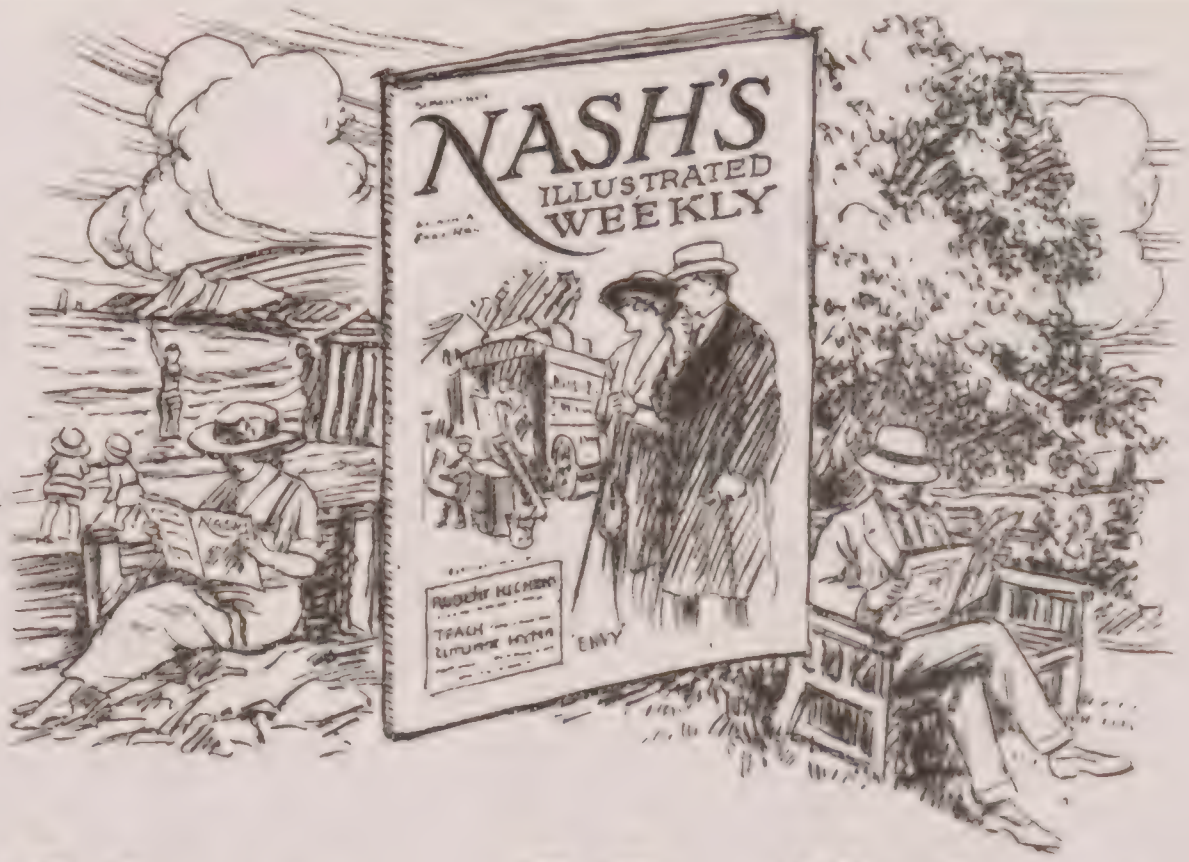
MY famous contents are exported in this bottle

Africa is calling for me
India is calling for me
Ceylon is calling for me
Egypt is calling for me

ARE YOU?



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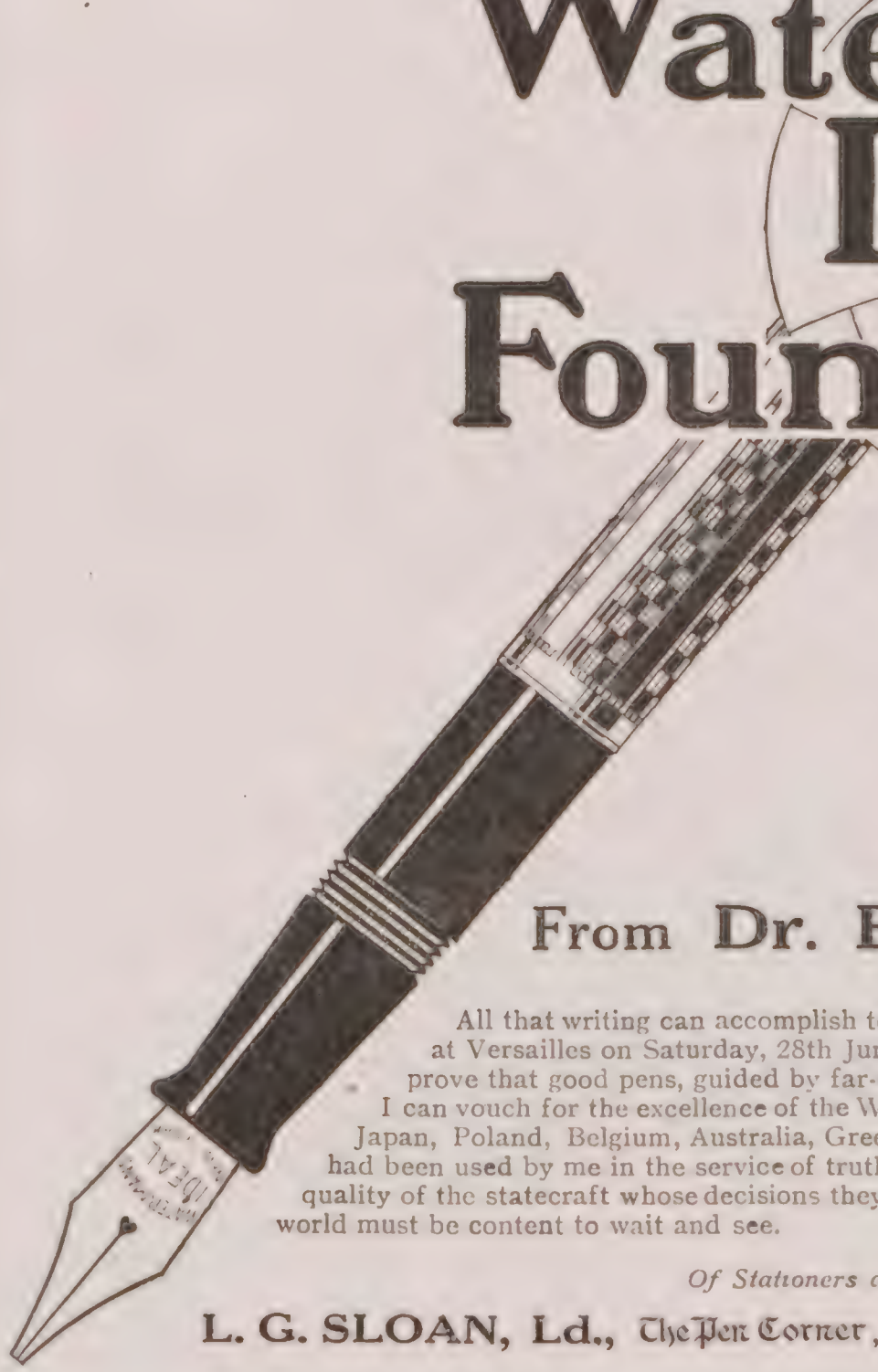
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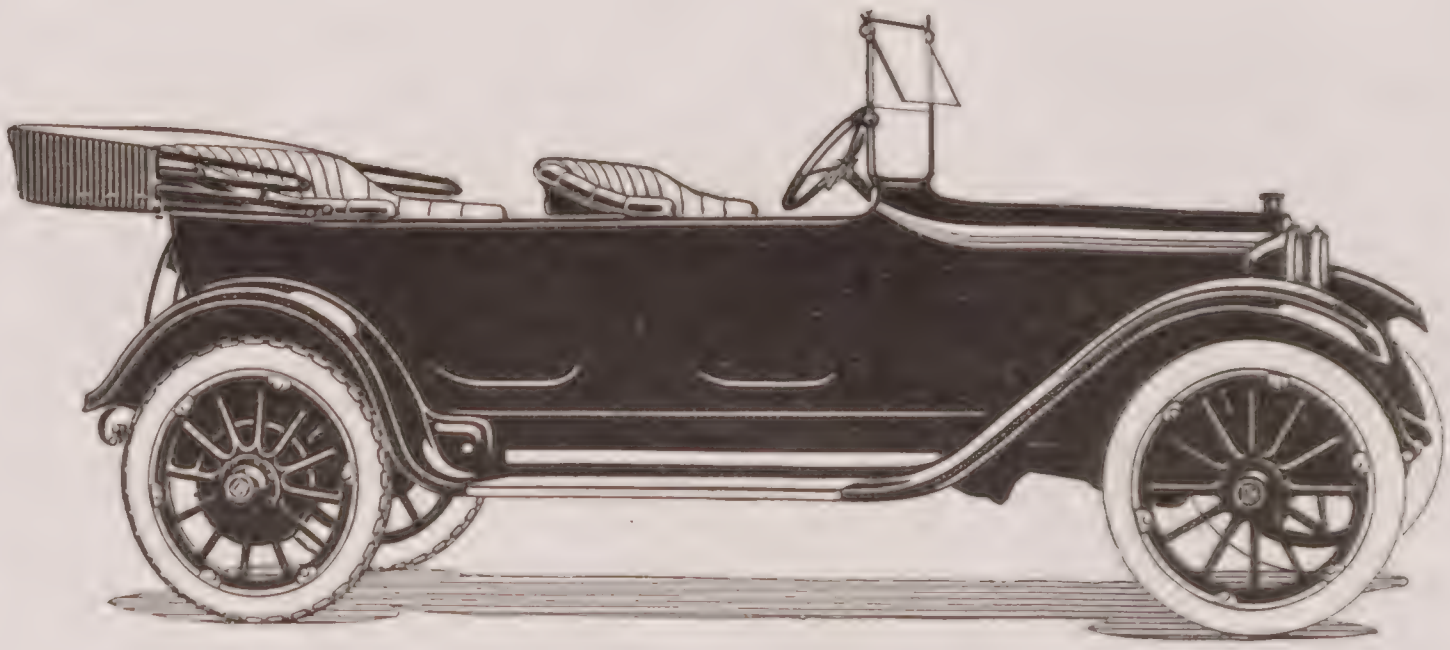
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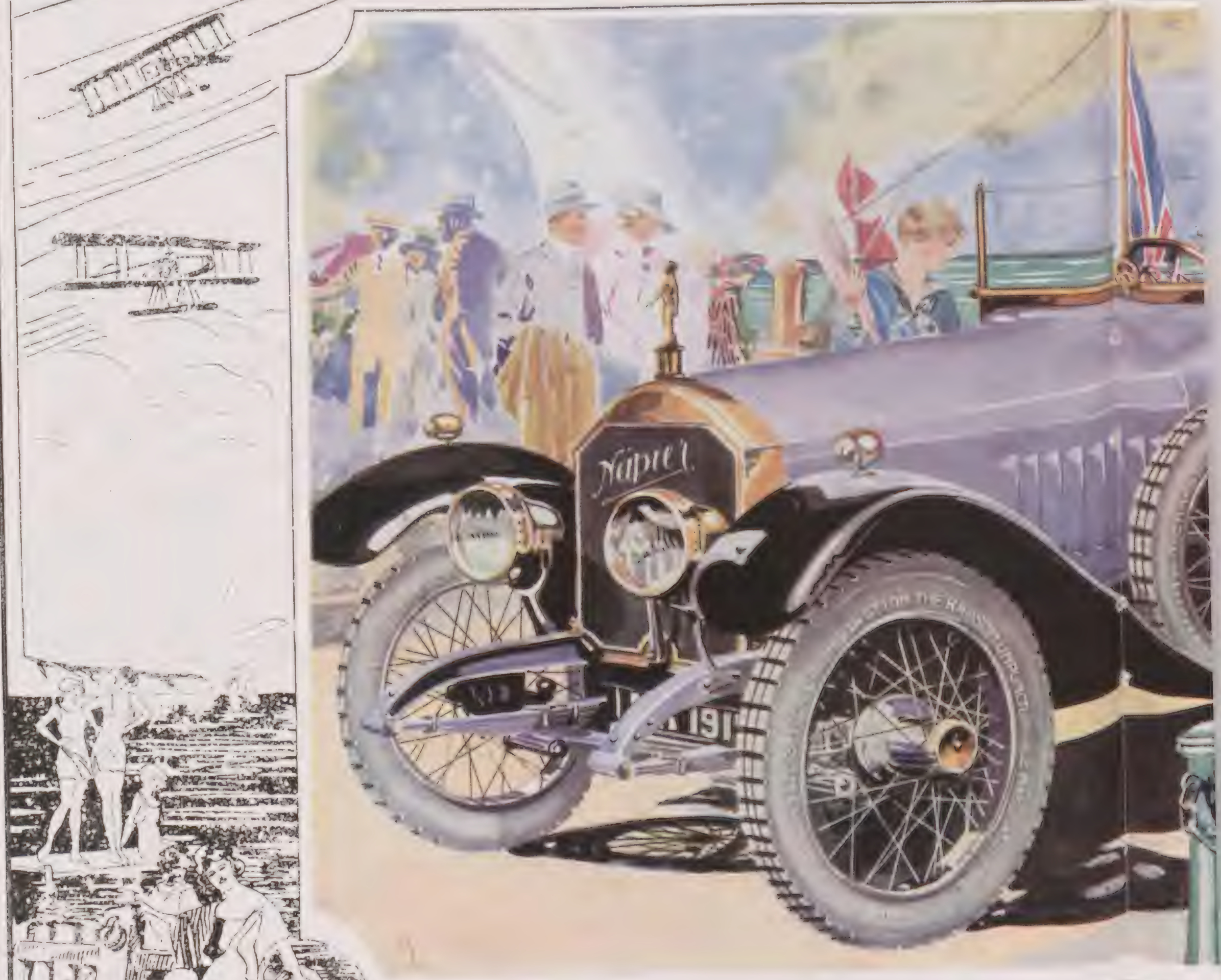
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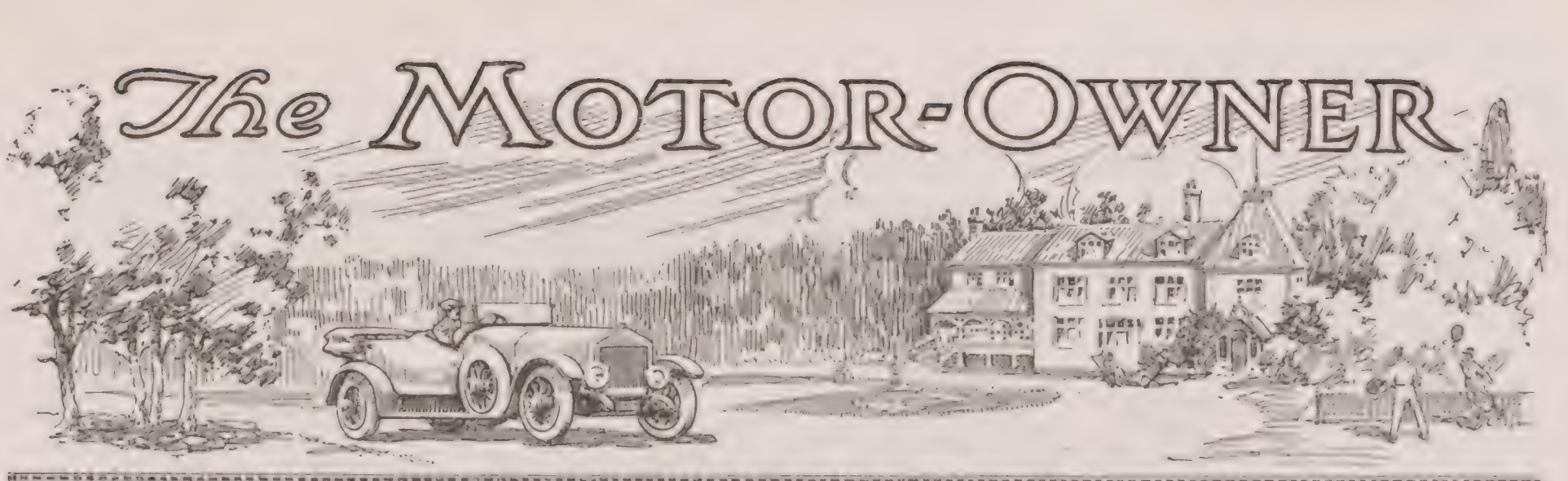
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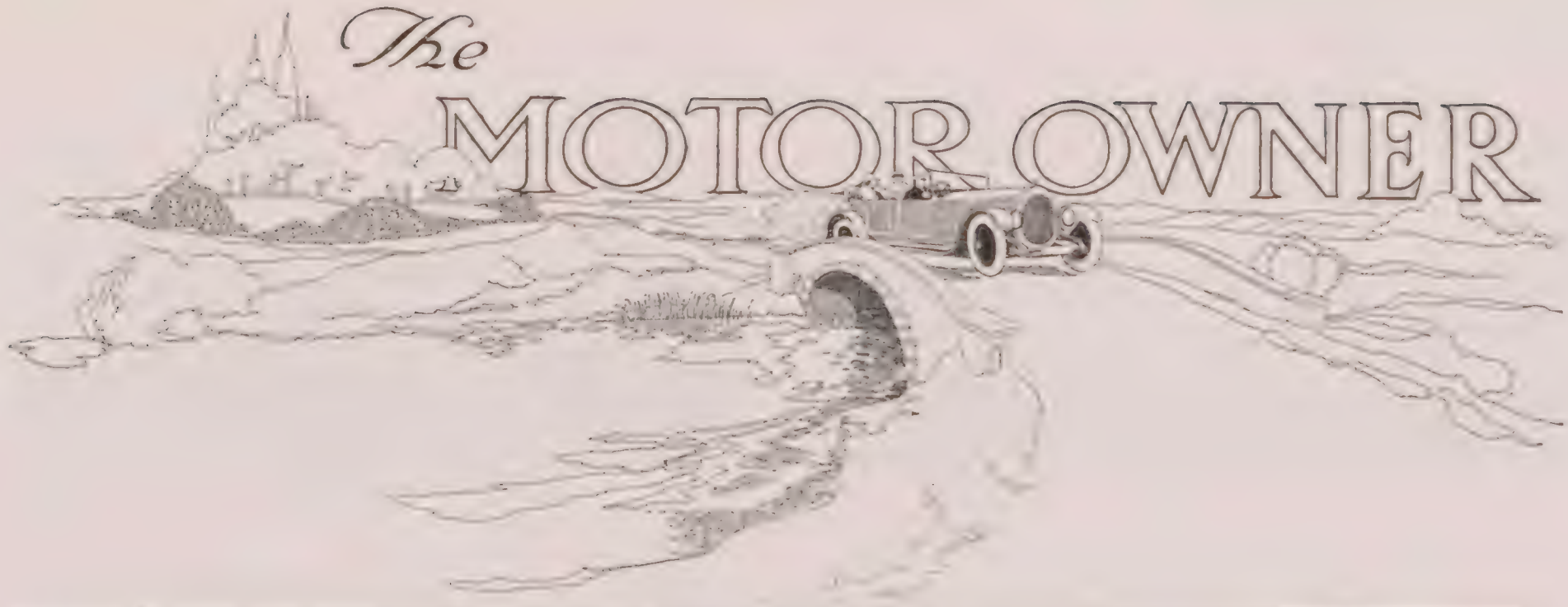
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Photo. by] [*"The Motor-Owner."*

EARL FITZWILLIAM, K.C.V.O., C.B.E., D.S.O.

BRITISH MUSEUM



Vol. I. SEPTEMBER, 1919. No. 4

EDITORIAL JOTTINGS.

Where are the Cars?

The would-be owners of new cars are certainly being tried very hard. In the June number of THE MOTOR-OWNER we pointed out that the process of "changing over" was a protracted one, and explained the reasons therefor in detail; but, though motorists gave up all hope of deliveries in time for a July holiday, they did at least expect to find themselves in a happier frame of mind ere now. Even the advent of September, however, has brought no substantial relief, and not even a "quantity production" car can be bought out of hand. As a matter of fact, the London showrooms themselves are still mostly destitute of demonstration models, while even from the Midland factories it is difficult to obtain a photograph of a complete car, letting alone any hopeful news of a gratifying issue of new vehicles. Generalities in plenty, as to labour troubles, shortage of materials, etc., have been put forward, but really some prominent manufacturer might do worse than explain to the motoring public exactly how matters stand, and why even at this late date there is no appreciable change in the most melancholy situation that car-owners have ever known.

The Ethics of Lighting.

So far as lighting restrictions are concerned, the obnoxious "Dora" is now a dead letter. This means that cars may carry head-lamps of any candle-power, and red rear lamps are no longer compulsory for horse-drawn vehicles and pedal bicycles. That the day of the feeble lamp is past is matter, of course, for immense congratulation; the horrors, indeed, of night driving during the war will not easily be forgotten. None the less, the reversion to the old state of things where rear lights are concerned is thoroughly unsatisfactory, and calls for early legislation. Certain cyclists, as we know, are opposed to the carrying of rear lamps, but no valid reason has yet been adduced why they should be exempt from a salutary proviso which is quite as much in their own interests as in that of the drivers of the more speedy car. As for slow-moving horse-drawn vehicles, as well as cattle, it is imperative that a new order making adequate lights compulsory should be issued forthwith. Without it no argument for the partial limitation of motorists' head-lamps will carry the slightest weight.

Do Motorists Tour?

Old sayings there are which will hardly bear analysis, but nothing was ever more true than the oft-quoted asseveration that "One half of the world does not know how the other half lives." And, for an exemplification thereof, one has only to study the question of motor touring, and the importance which it assumes, or otherwise, in the purview of the motoring community. It cannot be denied that many car-owners do not tour, and for a variety of reasons. The motor-car to them is a vehicle of utility alone, and, though they may employ it over a wider radius than that of the erstwhile horse-drawn carriage, it is still for them nothing but a means to an end.

Week-ending.

The end may be something more distant, on occasions, than the house of a country neighbour, and may even extend to a run down to the coast; indeed, this heroic venture may be ofttimes repeated. But week-end runs and touring are

as opposite as the poles, and a man may use his car every day throughout the year and still be wholly outside the pale of the elect. Meanwhile, however, the week-ender sees so many other utilitarians within his own parish, and such crowds of cars at Brighton or elsewhere on a Saturday or Sunday, that he comes to regard touring, if ever he concedes it a thought, as a nebulous pursuit, and those who practise it as an insignificant minority.

Ubiquitous.

The real tourist could tell a very different tale. He tours as widely and frequently as he can, because the "wanderlust" is in his blood. If there were no cars he would tour by other means, but the motor-car is the most tireless and most suitable of all means of locomotion, and enables him to fulfil his desires as nothing else can. But where the week-ender so conspicuously errs is in supposing that tourists are numerically a cypher. The simple fact of the matter is that, though they do not congregate at a given spot, they are to be found in every section of the land, and while this or that southern coast resort may display cars in the mass, there are other cars, singly or in small groups, at countless roadside inns all the country over, and in the aggregate they number even more than the week-enders on the Brighton front.

The Proof.

As to how many people actually undertake tours from year's end to year's end, it is impossible, of course, to cite precise figures in the absence of any census. It is not difficult to prove, none the less, that touring motorists are numerically a formidable body, and are infinitely more worthy of attention than they have all along received at the hands of chassis designers and bodybuilders generally. Few people, for example, have any conception as to the extent of the services which are rendered to enquiring members by the Touring Departments of the Royal Automobile Club and the Automobile Association respectively. We have invited these bodies accordingly to work out and furnish the statistics of their work for the period immediately preceding the war; from August, 1914, onwards, of course, touring was in abeyance, while even this summer it naturally has not attained its normal strength owing to the paucity of cars.

Some Statistics.

The answers are instructive. So far as home touring is concerned, the R.A.C. had, in 1914, at least 25,000 applications at the Touring Department counter for information of various sorts, while some 20,000 British routes were supplied, as well as maps and books innumerable. The A.A. has provided us with figures relating to the work done by its Touring Department in a single week—from July 5th to 11th, 1914. From these it appears that 1,365 town plans were issued, 106 routes were posted, and 575 members were personally interviewed on touring matters, while 222 strip maps were issued. Interesting as are all these figures, it may be pointed out that they represent only a fraction of the total number of motorists who tour, for —foreign travelling apart—the name is legion of ardent and experienced tourists who are perfectly competent to plan out their own routes, and do not need to invoke the kindly offices of either of the organisations named.

Foreign Touring.

There remains the question of foreign touring, as to the extent of which the week-ender is particularly liable to err. Up to the time of the war, the fine roads and glorious scenery of the Continent were attracting more and more British motor tourists every year, and the cross-channel traffic in cars bade fair to attain colossal dimensions. Here again we may quote the experiences of the R.A.C. and the A.A. In 1914, the R.A.C. issued no fewer than 12,000 continental routes, together with 3,940 triptyques and 2,460 International travelling passes. In the month of July alone 298 triptyques and 351 passes were supplied to members. Foreign details also absorbed no small degree of the work of the A.A. Touring Department, which issued in one week 125 triptyques and 109 International passes, examined 60 cars and motor-cycles for foreign tours, and saw to the shipping of 136 vehicles, while 209 members were assisted by interpreters at various ports. In the face of the above figures it can scarcely be denied that continental touring had assumed a stage of considerable importance before the war, and, but for the latter, would have attained a scale of exceeding magnitude.



THE EAST FRONT AND DRIVE, WENTWORTH WOODHOUSE.

CARS AND COUNTRY HOUSES.

I. Wentworth Woodhouse,

THE HOME OF EARL FITZWILLIAM, K.C.V.O., C.B.E., D.S.O.

OF keen motorists the Earl Fitzwilliam may unhesitatingly be described as one of the keenest, and of pioneers as one of the earliest. He was probably the first M.F.H. to press the motor-car into hunting service, and even in the early 'nineties he performed prodigies in the way of cross-country journeys which illustrated, in a signally effective manner, the benefits which the new means of locomotion conferred upon the devotees of the chase, particularly in the way of intercepting main-line trains at a great distance from home. Even when cars became really speedy vehicles, it is doubtful whether anything more truly sporting and all but thrilling was accomplished than the *tours de force* which Earl Fitzwilliam was wont to perform without the aid of either mechanic or chauffeur. And all this, it must be borne in mind, was done some twenty years ago, when cars could offer no comparison in reliability, comfort, and speed with those of the present day.

Foreseeing, moreover, the great future of the motoring movement, Lord Fitzwilliam decided



Photos. by] ["*The Motor-Owner.*"

EARL FITZWILLIAM AND HIS 30 H.P. SHEFFIELD-SIMPLEX LANDAULET.

to produce a high-class British car. With a mechanical turn of mind from the first, he had been trained as a locomotive engineer, and used to make a practice of driving engines, and particularly new locomotives on their first journeys.

His skill in this direction, by the way, was used to good effect in the South African war, for on one occasion a relief train was in danger from a Boer attack. There was a call for volunteers, and Viscount Milton, as he then was, stepped into the breach and drove the train in under fire. For this gallant exploit he received the D.S.O.

In 1903, however, he became actively and financially interested in the motor industry as director of the Brotherhood-Crocker Motors, Limited, and old motorists will remember the extraordinary interest which was aroused by the appearance of the first Brotherhood car. It certainly contained more novelties and "talking points" than any chassis which had been seen up to that time. Three years later Lord Fitzwilliam took over the whole undertaking and renamed the company the Sheffield-Simplex Motor Works, Limited. At Tinsley, on the outskirts of Sheffield, he erected and equipped a factory on the most modern lines, and it has since been increased to over four times its original size.



THE SUNKEN POOL.

Lord Fitzwilliam has always taken, and still maintains, a very active interest in the Sheffield-Simplex firm, being either at the works or the London office several days in each week. As a practical motorist he at all times displays a special interest in the design of the cars, and also in keeping the machine-tool equipment of the works fully up to date, being anxious to ensure in the first place that the Sheffield-Simplex car is of the most suitable type for the requirements of the private owner, and secondly, that the best possible facilities are provided for securing the finest and most accurate of workmanship.

In the early days of the war the factory at Tinsley was promptly utilised for the making of shells, and latterly has been a busy centre of aircraft engine production, the staff having specialised on that wonderful radial motor, the 350-h.p. A.B.C. Dragonfly. Experimental work, however, is now being carried out in connection with an entirely new Sheffield-Simplex car, the results of which may be forthcoming in due time.

In another direction also Lord Fitzwilliam had displayed remarkable foresight, for he was the first to prove the practical utility of the automobile as a means of hauling light artillery. This was a subject in which, as an artillery officer himself, he was



Photos. by] ["*The Motor-Owner.*"

A CHARMING FLOWER GARDEN, WITH THE WEST FRONT OF THE HOUSE IN THE DISTANCE.



1.—THE PILLAR HALL.

2.—THE SCULPTURE GALLERY.



3.—THE MARBLE SALOON.

4.—THE SMOKING ROOM, WITH PORTRAIT OF THE LATE EARL FITZWILLIAM.





Photos. by "The Motor-Owner."

SOME INTERIORS AT WENTWORTH WOODHOUSE.

were attached to some ordinary 30-h.p. Sheffield-Simplex chassis, and drawn by road the whole way in remarkably quick time—namely, eighty miles at twenty miles per hour. After their arrival, moreover, at the coast it was further shown how they could be taken into action by the same mechanical means. At the word of command the gunners hitched the chassis to the guns and dashed over rough ground to an appointed spot, with especially interested, but at the time he exemplified his new ideas the horse was regarded as a *sine qua non* for field gunnery work. In 1914, however, Lord Fitzwilliam arranged and carried out a strikingly successful demonstration between Wentworth Woodhouse and the Yorkshire coast.

A number of 18-pounders and limbers, with a full complement of gunners,

a celerity and ease that manifestly impressed General Plumer, who witnessed the operations and reported to the War Office. It is not too much to say that this demonstration was the foundation of the system of mechanical haulage for heavy artillery which was practically universal on the British front during the late war.

Very soon after the opening of the campaign, it may be added, Lord Fitzwilliam was appointed Deputy Assistant-Director of Mechanical Transport at the front, and, though he is far too modest to make any claims on his own account, we may reasonably contend that the conspicuous effectiveness of the work of the M.T. section was due in no small degree to the fact that in Lord Fitzwilliam it possessed an officer who was thoroughly *au courant* with mechanical transport in every phase. A very different state of affairs prevailed at the opening of the war, when the M.T. section was regarded as a more or less insignificant appanage of the A.S.C., and was not under the control of technical experts.



Photos. by] THE PRINCIPAL ENTRANCE (EAST FRONT). ["The Motor-Owner."

Of Lord Fitzwilliam's country seat at Wentworth Woodhouse, nine miles from Rotherham, it would be possible to write at great length, inasmuch as it is one of the most remarkable of English mansions, and in one respect, indeed, is unique, for it has over one hundred bedrooms, and is the largest private house in the kingdom. We may briefly summarise its history as follows :—

The grand old mansion was built during the reign of the Tudors, although no authentic information as to its history is available previously to the middle of the sixteenth century. In the mortuary chapel at Wentworth there is a monument erected to the memory of William



THE BLUE GARDEN.



THE MAZE.

Thomas Wentworth, of Wentworth Woodhouse, grandfather of the Earl of Strafford, who died A.D. 1587, and this gives clear proof of the existence of the house at that time.

Thomas Wentworth, who became Earl of Strafford, lived in Wentworth Woodhouse, and there may still be seen the window of his room and the old gate-way through which he escaped before his final arraignment.



1.—THE CORRIDOR.



2.—THE TROUT POOL, WITH S.E. VIEW OF THE HOUSE.



3.—THE CAMELLIA HOUSE.



4.—THE BROAD WALK.

[*Photos. by "The Motor-Owner."*

After the great Earl of Strafford's death, his son William inherited the property as second lord, and in 1684 made several additions to the house, including a chapel, and some traces of old Norman architecture that had formerly existed were removed. This second Earl died childless in 1695, leaving the estate to pass to the issue of his sister, who had married Edward, the second Baron Rockingham.

It was his successor, the son of Baron Rockingham and nephew of the second Earl of Strafford,

who first began the work of adding to Lord Strafford's house. He it was who built the garden front of the house, from designs by Henry Flitcroft. At a later date the first Marquess of Rockingham built a park front into the stone façade which now exists, and altered the centre part of the building, which includes nearly all the principal rooms.

Although interested and engaged in the alterations and additions to Wentworth Woodhouse, the first Marquess did not forget to show his loyalty to his King and country, for in the year 1748 a pyramidal building called Hoober Stand, from designs by Flitcroft, was erected by "His Majesty's most dutiful subject Thomas, Marquess of Rockingham, K.G., in grateful respect to the preserver of our religion, laws and liberty (King George II.) who, by the blessing of God, subdued a most unnatural rebellion in Great Britain, A.D. 1746."

The first Marquess died in 1750, and was succeeded by the Rt. Noble Charles, second Marquess of Rockingham, the great statesman who was twice Prime Minister, and, after a short illness, died in 1782. His successor to the Rockingham and Fitzwilliam estates was the fourth Earl Fitzwilliam, who erected a mausoleum to the memory of his uncle, which remains as a beautiful and conspicuous monument.

Towards the end of the eighteenth century the east and west wings of Wentworth Woodhouse were heightened by a third storey by the great-grandfather of the present Earl, as a design is extant which shows that an elevation, dated 1783, was submitted by Mr. Carr, of York, to Earl Fitzwilliam for approval, but was evidently altered and carried out to better effect.

Of the stately grandeur of Wentworth Woodhouse, both within and without, the spaciousness of the park by which it is surrounded, and the attractiveness of its gardens, our illustrations—which were specially taken for THE MOTOR-OWNER by our own photographer—will afford ample evidence.



Photo. by] THE BILLIARD ROOM AT WENTWORTH WOODHOUSE. ["*The Motor-Owner.*"

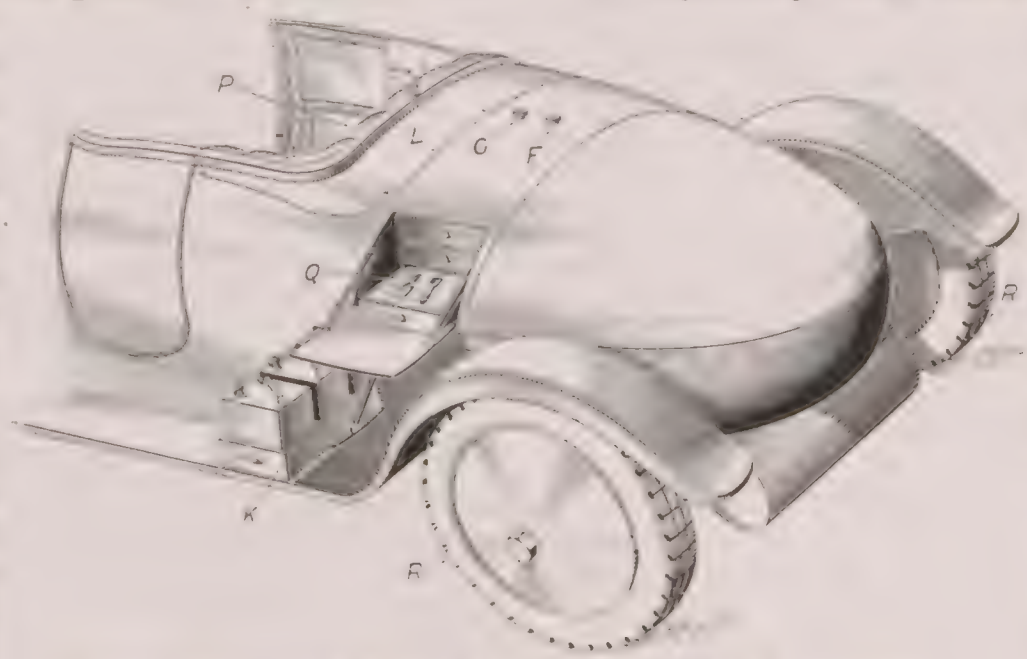
(On the right is a large picture of the Fitzwilliam Hunt.)

A NOVEL TOURING BODY.

Details of a Remarkable and Ingenious Design.

EVEN a first glance at the drawings on this and the succeeding page will show that the body which they illustrate is one of no ordinary design. Actual analysis of the details will reveal positive wonders.

While little or nothing has been done in the past to solve the luggage and other touring problems in the case of four-seated cars, two-seaters have received rather more attention because of the greater opportunities which they offer; but all previous efforts in this direction would certainly appear to have been surpassed in the body described herewith.



THE TOOL DRAWERS AND ONE OF THE SLIDING CARRIERS FOR PETROL CANS EXPOSED.

It has been designed, for his own use, by Mr. F. Lionel Rapson, and is now in course of construction by a well-known firm of coachbuilders. Mr. Rapson's aim seems to have been to secure the maximum of comfort and convenience, both as regards driving and halts by the way, and at the same time to produce, despite the multiplicity of special fittings, a flush-sided body without a single projection save the spare wheel cover, while even this is designed to offer the minimum of resistance to the air.

The comprehensiveness of the scheme, and the ingenuity with which it has been carried out, may best be gathered by a study of the following explanatory list of special features, aided by reference to the letters which appear in complete form on the second illustration, and are repeated, where necessary, on the other sketches :—

LIST OF SPECIAL FITTINGS.

A.—Suit-case.

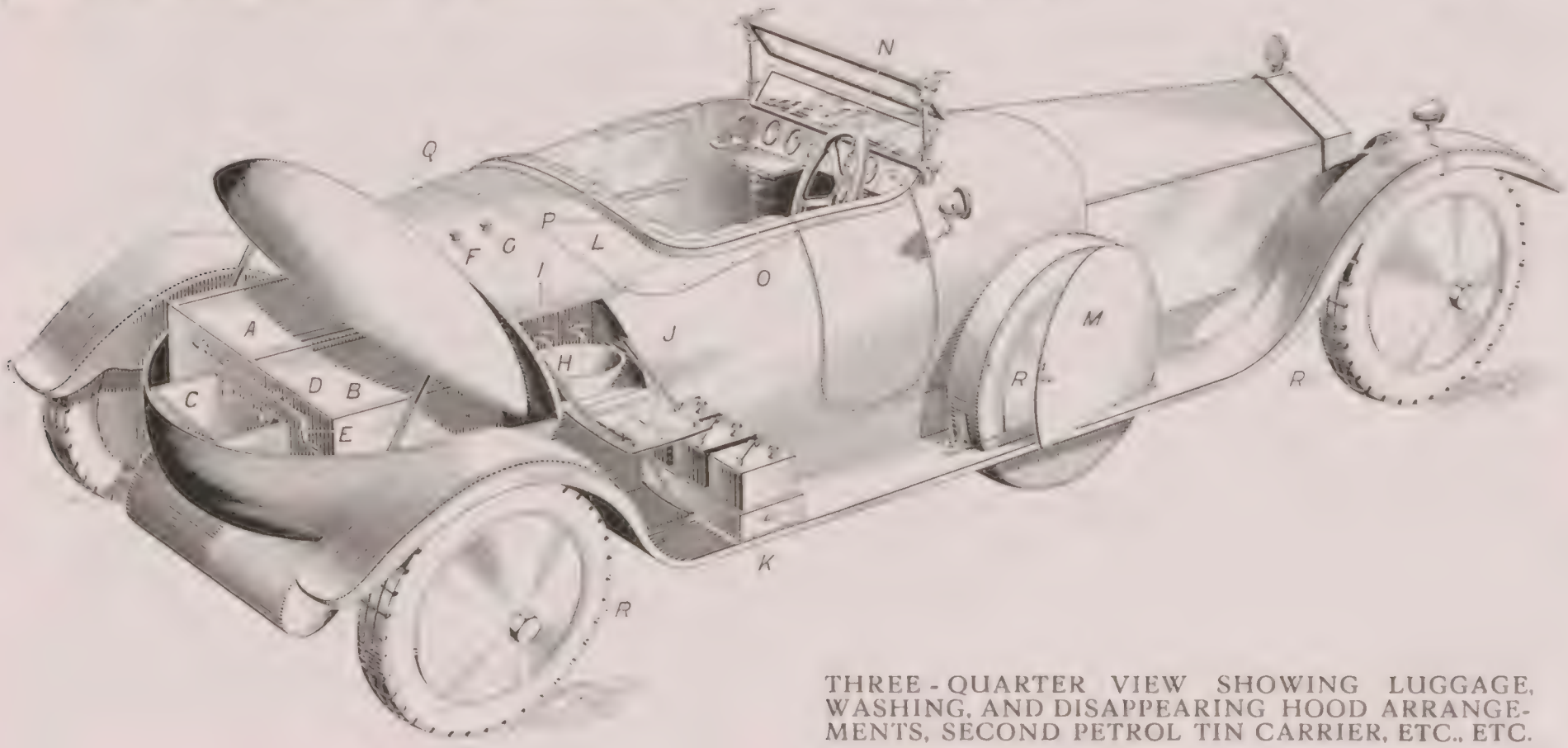
B.—Dressing-case.

C.—Petrol tank filler of a size to permit a tin of petrol to be stood upon it upside down, and left running into the petrol tank underneath.

D.—A T-handle spanner for screwing the filling plug of the petrol tank.

E.—A telescopic handle for operating four jacks, swivelled on the axles and near each wheel. These jacks cannot be seen in the ordinary way.

F.—A filler for a hot-water tank arranged in the body of the car. The water is heated by the exhaust pipe of the engine.



THREE-QUARTER VIEW SHOWING LUGGAGE, WASHING, AND DISAPPEARING HOOD ARRANGEMENTS, SECOND PETROL TIN CARRIER, ETC., ETC.

G.—A filler for a cold-water tank.

H.—A movable basin arranged in a cupboard in the side of the car body, and below the hot and cold water taps.

I.—Draw-off taps from the hot and cold water tanks.

J.—A rack for towels. These are arranged on a hinged cover of the cupboard in the side of the car.

K.—A sliding carrier for petrol tins. One of these carriers is arranged each side of the car body.

L.—A flexible cover enclosing the well provided for the disappearing hood, as patented by Mr. Rapson.

M.—A case as patented by Mr. Rapson for a spare wheel. This case is fitted with a hinged cover.

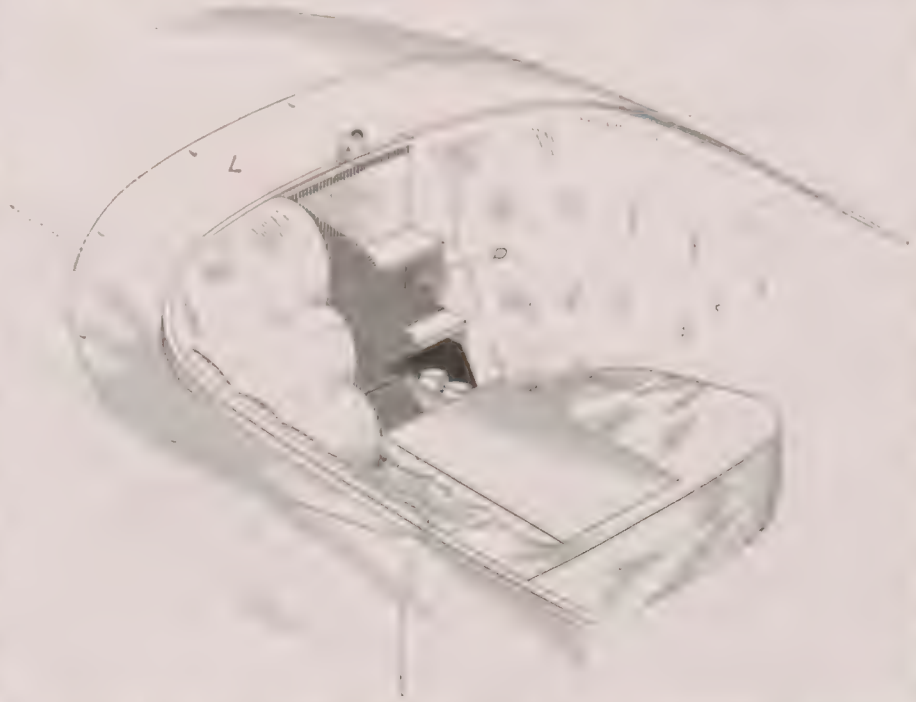
N.—An electric cigar lighter on a flexible connection.

O.—A flexible electric torch for observing direction posts at night.

P.—A ventilated locker closed by upholstery at the back of the seat for containing food. The floor of this locker is recessed for receptacles, which are kept warm by the exhaust pipe running underneath. When the flap in the centre of the upholstery is let down it forms a table.

Q.—Felt-lined drawers for spanners and small tools. These tools are arranged in a locker, closed by a door conforming to the shape of the car body.

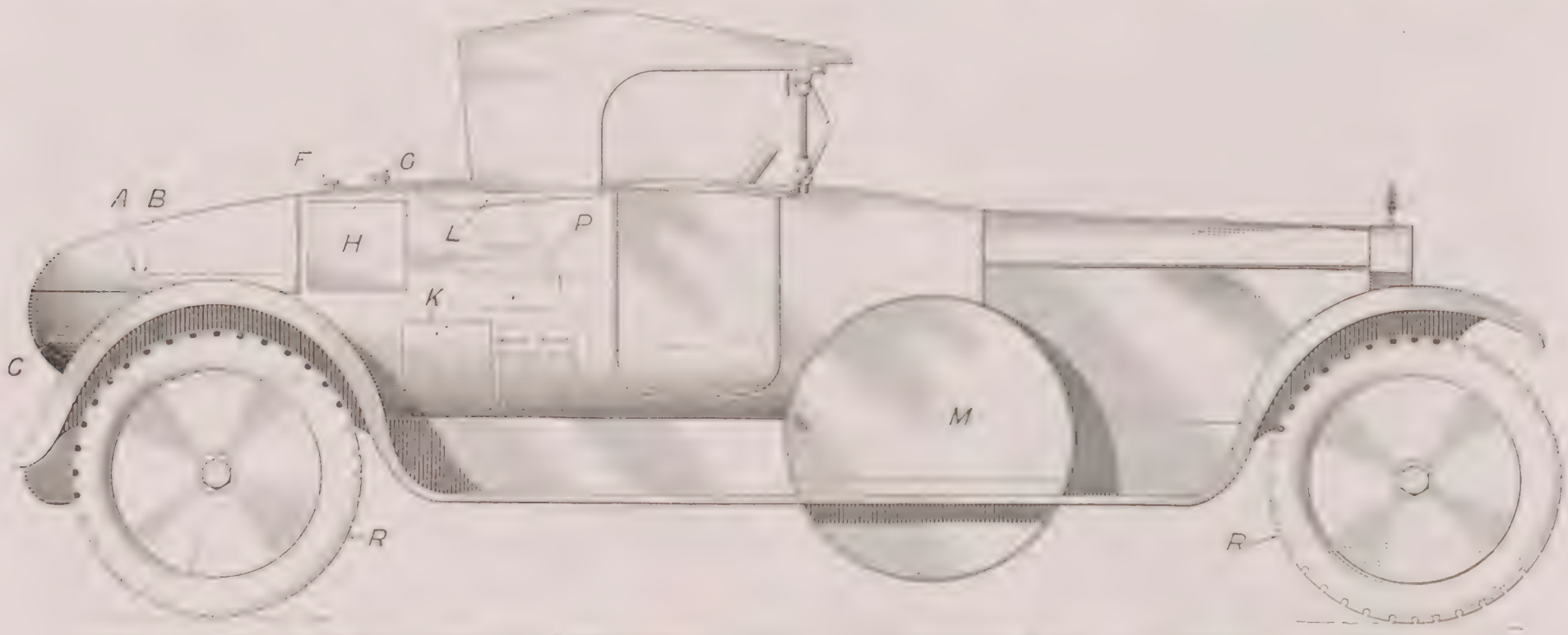
R.—Unpuncturable tyres, as patented by Mr. Rapson.



THE VENTILATED FOOD LOCKER OPENED, THE HINGED FLAP FORMING A TABLE BETWEEN THE DRIVER AND PASSENGER.

For the most part, the items on the foregoing list explain themselves. As regards the petrol tank, however, it may be added that the funnel is permanently *in situ*, and its nozzle is carried through the plug to the tank. Below the plug there is a gauze filter, and the plug has only to be unscrewed by the T-handle spanner, which rests inside the funnel, to ensure a speedy pouring in of the spirit without searching for and affixing a loose funnel in the ordinary way. The fixed funnel, of course, is out of sight, as also is the luggage, when the car is running.

The commissariat arrangements are particularly ingenious, providing as they do for the keeping of food warm, if desired, and the carrying of vacuum flasks. Mr. Rapson appears, moreover, to have solved the problem of how to lunch in comfort on the car itself. As will be seen from the smaller illustration on this page, the locker, when opened out, discloses shelves on which plates, etc., may be rested, while the upholstered flap, when let down, becomes a table. The seat is a wide one, and affords ample room for the table between the passenger and driver. The fitting of six spare cans in trays which slide within the car body is an admirable arrangement on both practical and artistic grounds, while the provision of hot and cold water is the last word in luxury.



SIDE VIEW SHOWING THE DISAPPEARING HOOD UNFURLED, BUT ALL OTHER RECEPTACLES CLOSED TO FORM A FLUSH-SIDED BODY.

The Winding Hill.



Few sights are more attractive on the road than a string of cars descending a winding hill through a wood. The scene of this particular illustration is the Causeway, in the neighbourhood of Arundel.

A REALLY RAPID RIM.

IT is a debatable point whether more ingenuity has been exercised in the production of the highly efficient automobile engine of to-day than in the invention of various devices to overcome the defects inherent to the pneumatic tyre. Such devices, in the shape of detachable wheels and rims, and spare rims of the Stepney variety, are sufficiently numerous to justify the assumption, at least, that an immense amount of thought has been devoted to the tyre problem: and, incidentally, some remarkably good solutions have been provided.



The Rim Contracted for Removal of the Tyre.

Most, though by no means all, of these devices, however, suffer from the limitation that when a number of punctures corresponding to the number of spare wheels or rims carried on the car has been experienced, one is reduced to the laborious methods of other days before one can proceed with the journey on four inflated tyres again. Fortunately this difficulty is provided for by a few detachable rims and similar fitments, so that although the time may come when one is reduced to fitting a new tube instead of merely exchanging a rim or wheel with a deflated tyre for one that is immediately ready for service, the tyre changing operation is robbed of its terrors.

Notable among the latter is the "Rapid" rim, which was one of the few motor accessories to undergo an official Royal Automobile Club test during the blank years of the war. The report of that test, which was held in the autumn of 1916, was thoroughly satisfactory both from the point of view of ease of operation and durability under average running conditions, and at the close of the trial the times were taken for fitting new tyres, sealed as delivered by the manufacturers, upon one of the rims. These times varied from 26 seconds to 84 seconds in the case of different covers.

The complete Rapid rim consists of an annular channel piece shrunk on the felloe of the wheel, with flanges forming a support for the rim proper. The detachable rim is split transversely to enable it to be expanded and contracted, an operation which is carried out by the movement, through the rotation by a key—the only special tool required—of a screw bolt, of two wedge pieces on the ends of the split rim. The rim has two grooves on its bed which engage with the flanges of the channel and keep the rim in position, while the true section for the reception of the tyre is made up by two endless beaded rings, within which rest the beaded edges of the cover.



The Rim Expanded for Wheel Removal.

To remove a punctured tyre, the rim is expanded by a few turns of the key and lifted off the wheel. It is then contracted by a few turns in the opposite direction, and unlocked, in which condition the rim is materially smaller than the tyre. The latter, with the tube and the two beaded rings, is removed, the new tube inserted, and the whole series of operations reversed.

It is difficult to convey in print an impression of the ease and rapidity with which the Rapid Rim can be operated, but some idea may be gained from the fact that in the R.A.C. trial a rear rim and tyre were completely removed from the wheel in nine seconds and replaced in a similar short space of time—the latter, needless to say, not including the time for inflation.



Photos. by] COMPONENT PARTS OF THE RAPID RIM. ["*The Motor-Owner*"

A SPOKELESS WHEEL.

AS the disc, or spokeless, wheel is coming more and more into use, on account of its general neatness of appearance and the ease with which it can be cleaned, motor-owners will regard with interest the fact that a Michelin wheel of this type is now



ATTACHING A REAR WHEEL.

upon the market. Unfortunately, the new wheel suffers under the temporary disadvantage that its use necessitates the fitting of a special hub which the makers are not at the moment prepared to supply themselves. We understand, however, that a factory is to be secured in this country for the manufacture of the wheel, and doubtless when labour difficulties have been overcome, and matters are running smoothly, the Michelin people will turn their attention to hub as well as wheel production. At the moment, this wheel must be regarded as applicable only to new season's yet-to-be-built cars, in which provision for the special hub can be made in the specification.

As the illustrations show, the Michelin wheel is attached and detached in much the same fashion as the ordinary detachable wood wheel, but the particular variation of this method used is interesting, in that it simplifies the process of handling. No effort is required to centre the



PRESSING HOME A FRONT WHEEL.

wheel on the hub; the bolt holes and the central hole through which the hub passes are considerably larger than the respective parts with which they engage, but the nuts used have a rounded face which, as it is turned down into a corresponding counter-sinking in the bolt holes, automatically forces the wheel to take up its correct position.

The Michelin wheel is a simple disc of pressed steel, gradually diminishing in thickness from centre to circumference, and an ordinary Clincher type rim is riveted to a lip on the periphery of the disc. It is made in three patterns, for light, medium and heavy cars; and one of its advantages is that, by using two of the larger sizes bolted back to back, an effective twin wheel is obtained. Another advantage is its extreme simplicity, without intricate locking arrangements liable to derangement by dirt.

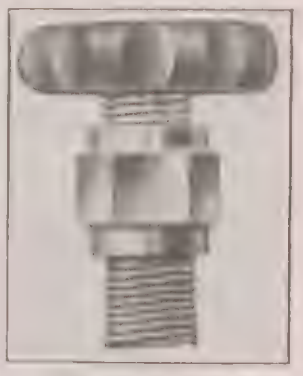


A SPOKELESS-WHEELED CAR IN THE FRENCH ALPS.

USEFUL ACCESSORIES.

A NEW COMPRESSION TAP.

A COMPRESSION tap which eliminates both the troublesome lever and the narrow, easily-choked orifice of the usual type of tap has been introduced by Leo Ripault and Company. This accessory, as the illustration shows, is made in two parts only, so that there is nothing to get out of order, and it will be noticed that a specially wide cup is provided for priming purposes. The tap is easily operated by a turn of the hand, and when the nose of the upper portion is screwed down to its seating in the body of the tap, a perfect pressure-tight joint is formed. As the screwed-down portion is released by a turn or so of the thread, a clear way is provided from the interior of the cylinder to the central chamber, and thence through the hole seen in the illustration to the air by way of the drilled-out centre of the upper portion. A fairly wide passage is provided throughout, so that there is little likelihood of the tap becoming choked with carbon; but, if this should occur, the upper portion is easily cleared, and when removed from the body of the tap gives access to the final passage-way to the cylinder. It is an accessory which will be welcomed by motorists who have experienced the irritation which a faulty compression tap of the ordinary type can arouse.



The Leverless Compression Tap.



A.—Large Priming Cup.

B.—Priming Bath, showing Free Flow.

C.—Taper seating which cannot leak.

D.—Large orifice—will not carbon up.

The Tap in Section.



Three sizes of the F. W. Lucas Funnel.

HANDY FUNNELS.

Of the many adjuncts to pleasurable motoring, the petrol funnel, while one of the most essential, is probably the most prosaic and the least adaptable to novel development. At the same time, there are good funnels and bad; and one which will not stay upright when inserted in the filling orifice of the tank, and which allows the liquid to splash over body and paint-work, if anything but the slowest pouring is attempted, is an article which one dreads to use, especially, for instance, in an emergency after dark. The firm of F. W. Lucas, of 240, Brixton Hill, S.W., has endeavoured to eliminate some of the ills which funnels are heir to in the device illustrated, and they have succeeded in producing a funnel which, among other advantages, is exceptionally handy for packing purposes—wherein it distinctly scores over the circular variety. The Lucas funnel is strongly made in one piece, and the wide overhang of the lip not only helps to prevent dirt and grit from entering the tank, but to a large extent does away with splashing, and so allows a can of petrol to be emptied rapidly and without waste. Three sizes are made, ranging in price from 1s. 9d. to 3s. 9d. All are constructed of noticeably stout material; and if, in spite of the advantage of their shape, which, with reasonable care in packing, should prevent them from roaming around the tool-box, the funnels should come adrift when the car is in motion, there is little fear that they will suffer damage from contact with the heavier contents of the box.

THE "DIVISIBLE" OLEO PLUG.

The advantages of divisibility in sparking plug design have been dealt with already in THE MOTOR-OWNER, so that there is no need to expatiate upon the advantages of the new Oleo plug in this respect. A feature of this accessory, however, is its simplicity. The illustration is self-explanatory of the mode of operation, and it is apparent that no special mechanical knowledge or skill in the use of tools is required to separate completely the plug into its component parts, thoroughly clean each detail, and reassemble the whole—a process which can be performed in a very few minutes. It is practically impossible to fit up the parts incorrectly, as the purpose of each is so obvious, and a further point which strikes one is the absence of necessity to use any undue degree of force to secure a gas-tight joint. No gland nut is employed, the joint being made by merely screwing down the nut above the porcelain dome, which acts as a protector and additional insulation for the central electrode. This draws the tapered portion of the mica electrode into contact with the plug body, and, so far as the pressure required to make the joint gas-tight is concerned, the operation might almost be performed with the unaided fingers. The only respect in which especial care need be exercised is in the preservation of the polished surface of the mica insulation, as scratches invite short circuiting, which applies to any mica plug.



The New Oleo Plug Dismantled.

Touring on the Carso.



British and American tourists are already finding their way to the wide and varied area of the Italian battle-fields, essentially the most picturesque of the entire theatre of war. Actuality is lent to Mr. Lipscombe's drawing of a shell-battered town by the fact that he himself saw service on the Italian front until demobilised.

THE HIGHEST ROAD IN THE WORLD.

NOT in the Alps, nor in the Pyrenees, nor in the Apennines is the highest road in the world to be found. Road-making is the work of man, not of nature, and the loftiest mountain ranges are not necessarily accompanied by the highest roads; as witness the Himalayas, which almost dwarf the Alps, but can show nothing to compare with the famous Austro-Italian highway—the Stelvio Pass—nor the scarcely less remarkable Col du Galibier in France.

But in America, so badly off for roads in the plains, there are carriage routes at altitudes to



ON THE WAY TO PIKE'S PEAK: A FLEET OF PUBLIC SERVICE CARS.

which even the Stelvio itself must concede pride of place. Until recently they have been confined to the Andes, where the climatic conditions allow people not merely to drive but even to live at heights which would be uninhabitable in Europe. The circumstances have bred a special race of men, for the breathing of the rarefied air develops abnormally large lungs; but if they come back to the plains—so a mining engineer once informed me—they are liable to die of consumption.

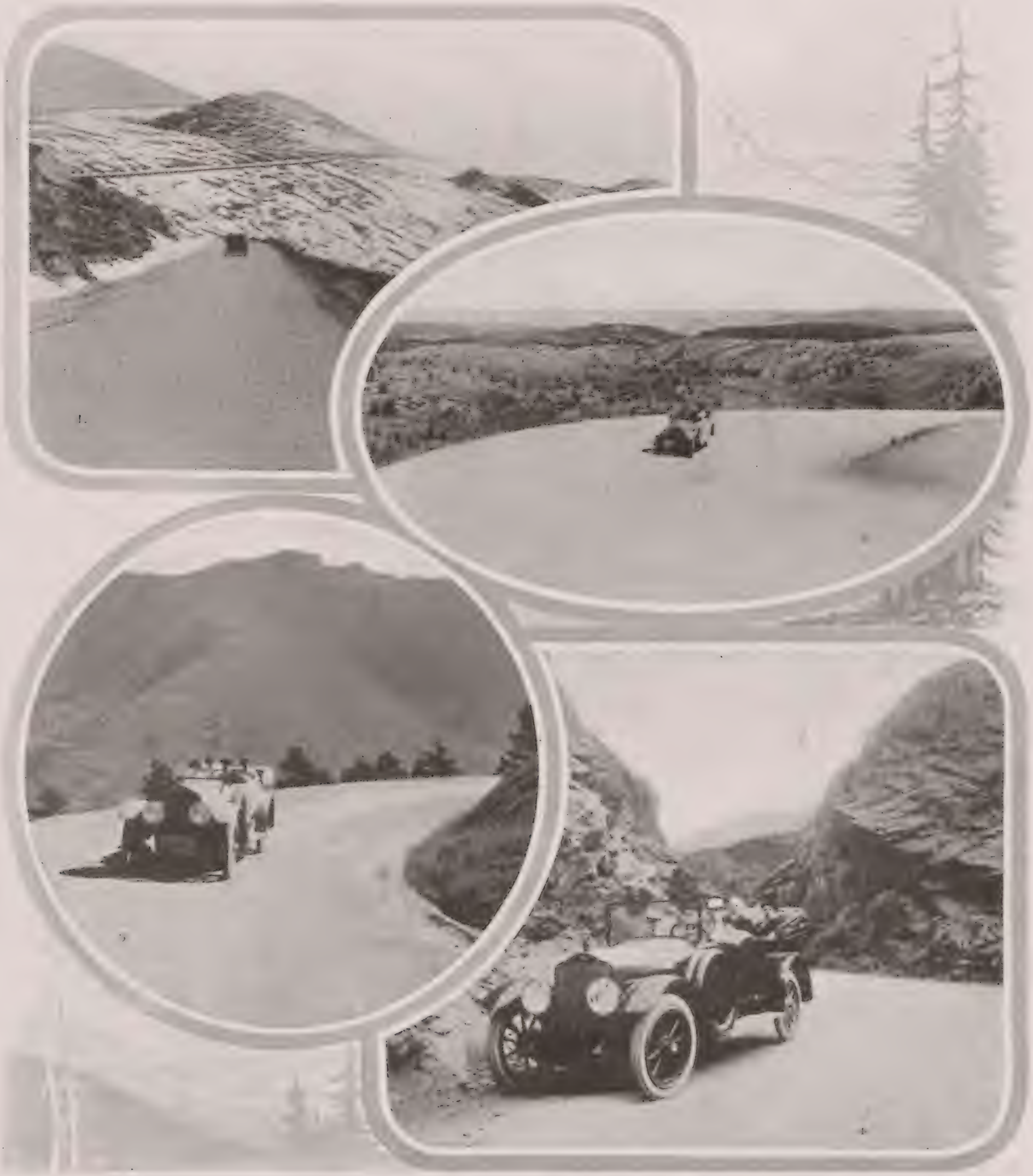
The roads of the Andes themselves, however, have lately been eclipsed by the completion of the "Pike's Peak Auto Highway," among the Rocky Mountains, which rises to 14,109 feet above sea level. As an engineering scheme the road is supreme, but it is no less noteworthy for the beauties it unfolds. At 13,000 feet, four miles from the summit, the road commands views to the north, south and west of three hundred miles of the ranges and peaks of the Rockies, while on the east there is a limitless expanse of rolling plain.

Like all modern mountain highways, moreover, the Pike's Peak road has been so skilfully engineered that it offers no difficulties to cars worthy the name. Its average gradient is only six per cent.—with a maximum of ten, as on the Stelvio. Two cars can pass each other with safety at the narrowest points, while in many parts three and even four machines may move abreast. Wherever a specially fine view is opened up, the road is provided with a side platform at which a car can halt for a rest or the enjoyment of an uninterrupted prospect. The road surface is almost entirely of small macadam, and remarkably smooth, while the turnings are mostly in the nature of sweeping bends.

The private motorist, of course, is free to follow the Pike's Peak route at any time he pleases, but there is also a fleet of public service cars which carry tourists from Colorado Springs, and make the trip there and back in five hours. The route from Colorado Springs is through the Garden of the Gods to Manitou, thence up the historic Ute Pass to Cascade, which is the starting point of the road up to the Peak, and is twelve miles from the Springs. The rise from Cascade is one of 6,694 feet in eighteen miles, an average of about 372 feet per mile. From these figures it will be seen that the designers of the road have modelled their gradients on the best Alpine examples, but have improved thereon in respect of width.

The Stelvio Pass does not exceed 19 feet, and, though this measurement is exceeded on the newer passes of Tyrol, they cannot rival in expansiveness a road which allows four cars to move abreast.

C. L. F.

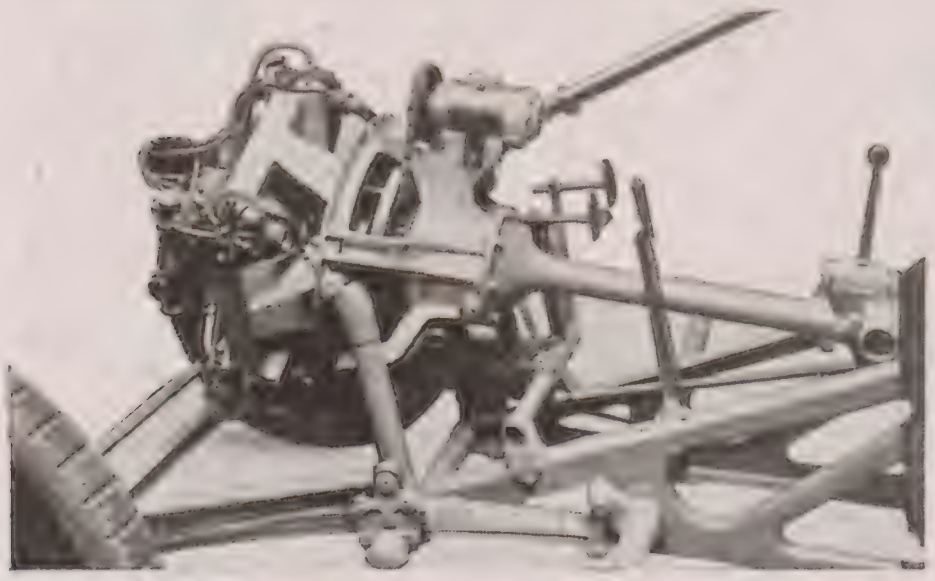


1.—NEAR THE SUMMIT, AT AN ALTITUDE OF 14,000 FT. 2.—A CAR ROUNDING A 50 FT. CURVE ON THE PIKE'S PEAK HIGHWAY. 3.—RISING OUT OF THE UTE PASS AT A HEIGHT OF 7,795 FT. 4.—A ROCK CUTTING ON THE UTE PASS.

VIEWS ON THE PIKE'S PEAK AUTOMOBILE HIGHWAY.

A RADIAL-ENGINED CHASSIS.

IN such a car as the Enfield-Allday "Bullet," which is one complete novelty, it is difficult to emphasise any detail as more deserving of careful attention than others. The layman will be most strongly impressed by the radial engine or the pleasing lines of the clover-leaf body, with its unique cowling to ensure efficient air-cooling for the engine. The man most concerned with chassis design will be fascinated by the novel double triangulated support for the gear box or by the arrangement of the springs, which are splayed outwards from their points of attachment to the frame instead of being parallel to the side members—a practice that is, by the way, followed in another new light car with an air-cooled engine. The purely technical gentleman will hover for a long time round the valve gear before he becomes equally engrossed in the design of the car as a whole.

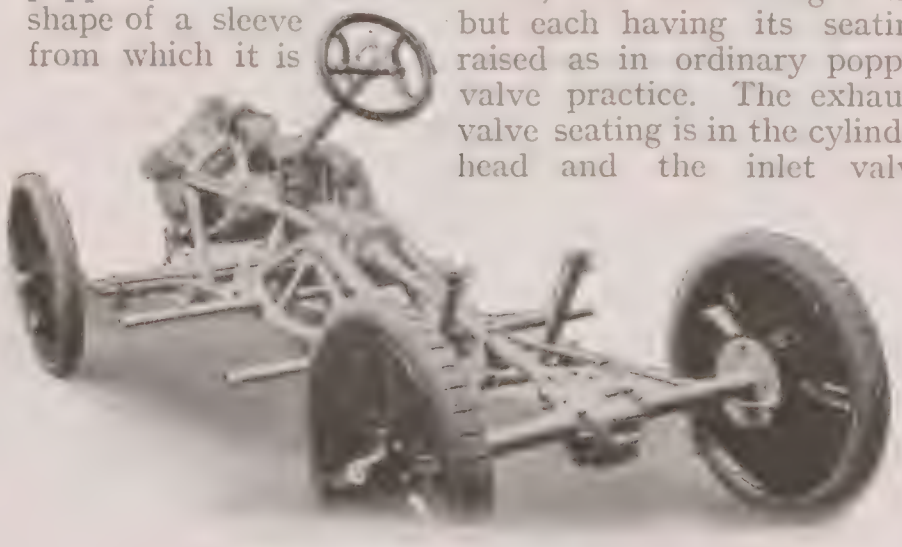


THE 5-CYL. RADIAL ENGINE AND ITS MOUNTING.

The engine, then, is a five-cylinder radial of a type that has proved its worth on aeroplanes, where the highest possible power to weight ratio was an essential. The Enfield-Allday engine has a bore and stroke of 63 by 80 mm., a power output of 10·25 h.p. at 1,250 r.p.m., which is doubled at twice the r.p.m. (a by no means common performance), and a weight of 123 lb. A single throw crankshaft is employed, this carrying the main connecting-rod on which are carried the big ends of the four auxiliary rods. Slipper type pistons made of aluminium bronze carry a hollow gudgeon pin which is held in position by a split pin accessible from the outside of the piston.

Engine cooling is by means of air drawn over the cylinders through special cowling by means of a fan incorporated in the flywheel. Ignition is by high tension magneto giving two sparks per revolution and running at 1¼ times engine speed and supplying current to the plugs through a distributer running at half engine speed. Carburation is by an automatic carburetter of standard design and lubrication is on the dry sump principle—*i.e.*, the oil is carried in a tank from which it is pumped into the engine, after circulating through which it is returned by another pump.

The interesting valve gear may be said to combine both poppet and sleeve valve features, each valve being in the shape of a sleeve but each having its seating raised as in ordinary poppet valve practice. The exhaust valve seating is in the cylinder head and the inlet valve from which it is

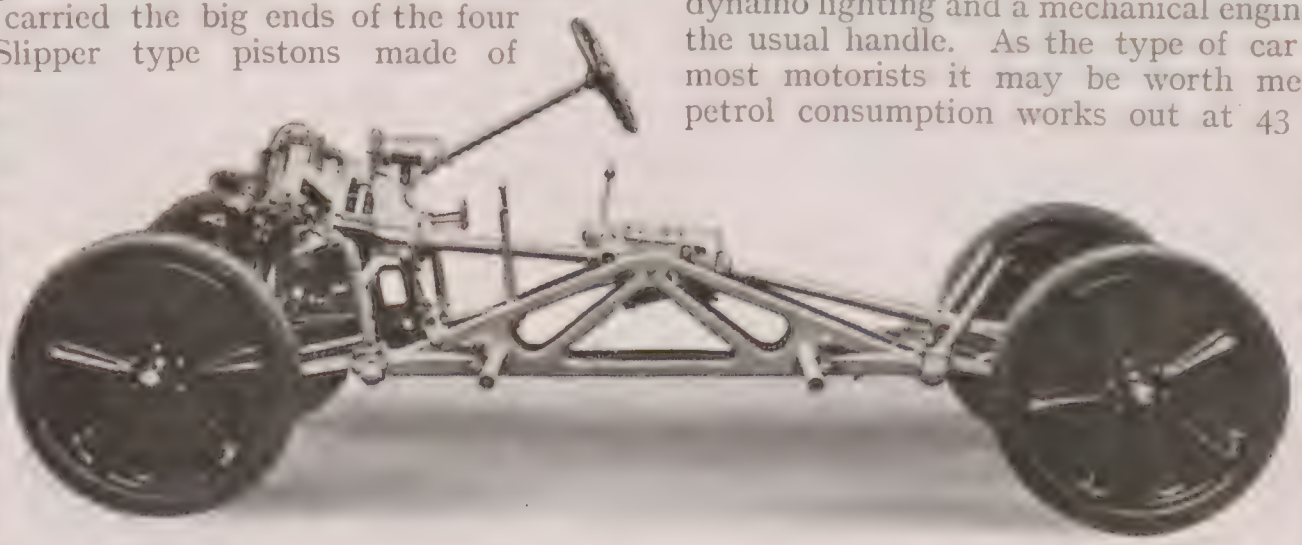


A THREE-QUARTER VIEW.

is mounted concentrically in the exhaust valve in which it has its seating. Maximum silence, lightness of reciprocating parts and highest efficiency are claimed for this arrangement, and connected with the second is the interesting fact that the valves are operated by rods working in tension instead of in compression, as with the usual tappet rods.

Clutch and gear box are constructed on standard lines, but no universal joint is interposed between them, and the gear box is carried in trunnion bearings between the two triangulated members that are shown clearly in the illustrations. Immediately behind the gear box is the only universal joint in the chassis, which is of the roller bearing type and is guaranteed not to require lubrication for the first 20,000 miles of its life. The propeller shaft is enclosed in a torque tube and the rear axle has helical bevel drive.

The standard equipment of the complete car includes dynamo lighting and a mechanical engine-starter to replace the usual handle. As the type of car is entirely new to most motorists it may be worth mentioning that the petrol consumption works out at 43 and the oil consumption is expected to be in the neighbourhood of 2,000 miles per gallon. Unusual smoothness of riding is claimed as a result of the spring arrangement—it may be seen from the illustrations that both front and rear springs are on the cantilever principle—for vertical oscillation through road shocks is materially reduced by the splaying. The price of the car complete, is to be about £295.



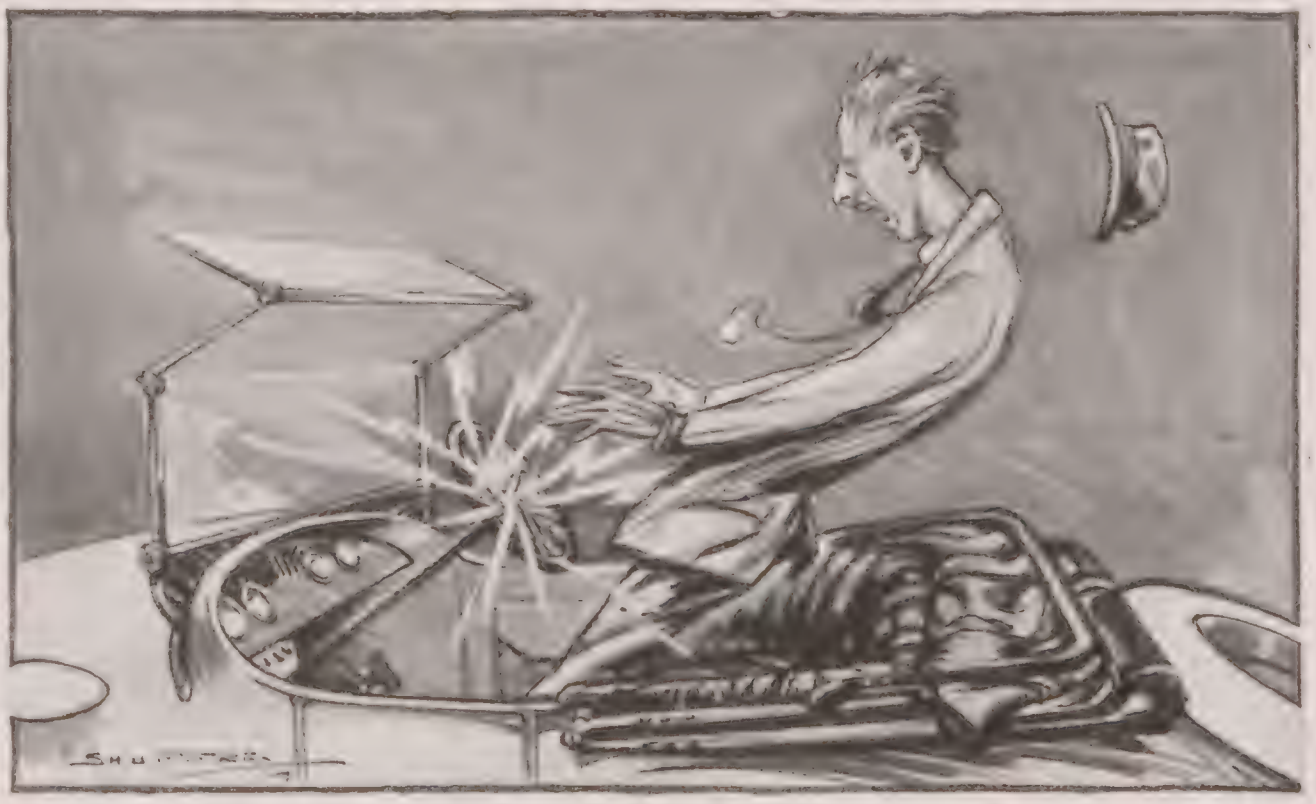
SIDE VIEW OF THE 10-H.P. ENFIELD-ALLDAY CHASSIS.

CAMOUFLAGE
—Legitimate and Otherwise.

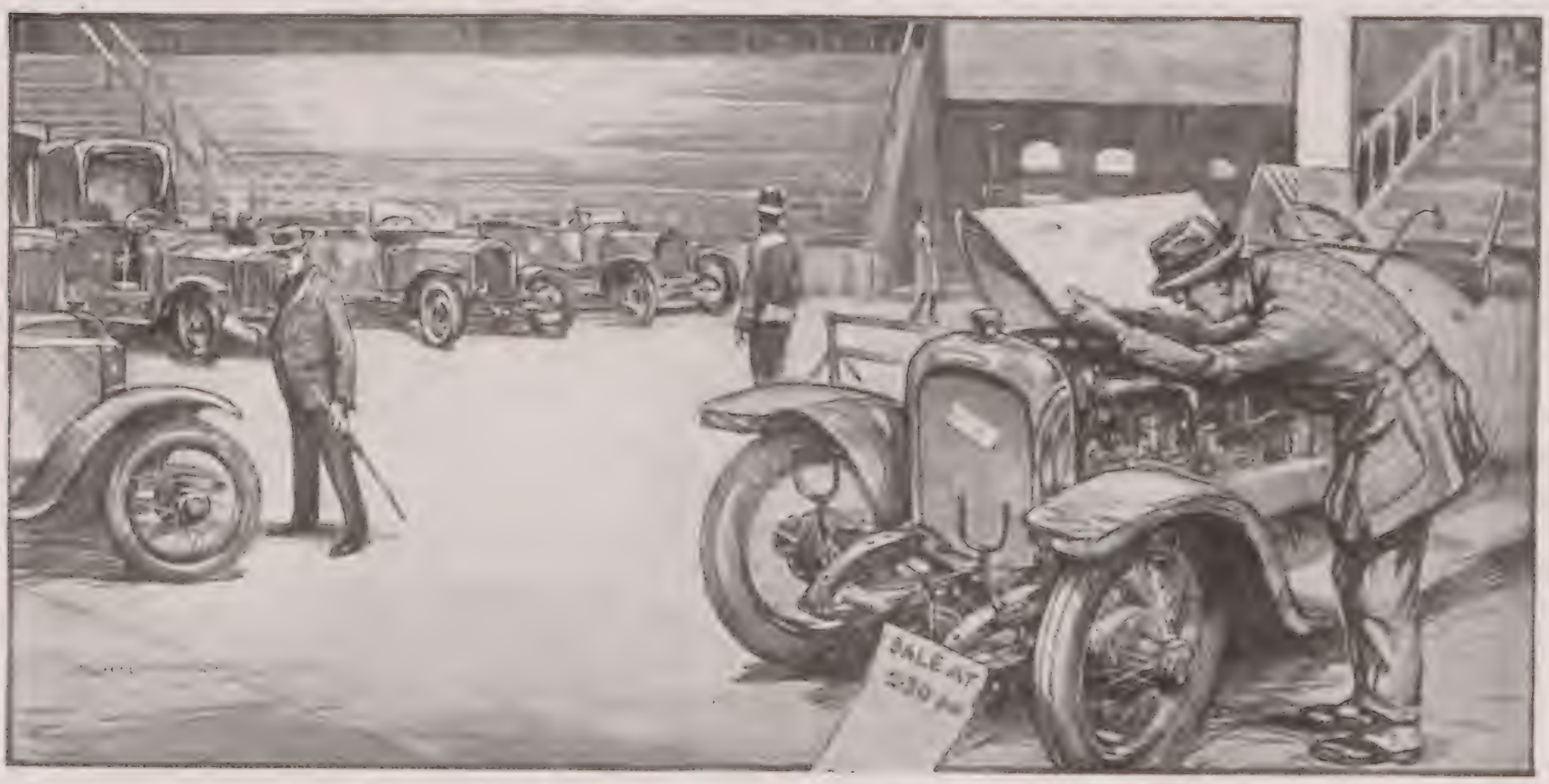
IT is to be supposed that one of these fine days it will be possible to look around and say that everything is once more absolutely normal, and that not a vestige of the effects of the war remains. At the present moment, however, it is an unfortunate fact that, so far as automobilism is concerned, things in general are in a somewhat queer state. Mere inflation of prices is a matter which one may grumble about, realising all the while that it is a temporary and very natural result of the enormous belligerent expenditure of the past few years. This, therefore, while it is the most obvious and direct result of the war, is scarcely even noteworthy; but there appears to be an element of unrest abroad which is breaking out in all kinds of unexpected ways to the disadvantage of the motor-owner, and which, for want of any better reason, must be attributed to the upsetting influence of the war.

How otherwise, for instance, can we explain the sudden epidemic of motor-car thefts? From the fact that a succession of thief-resisting devices of one kind and another is making its appearance on the market, one imagines that the law of supply and demand is getting in some useful work; and, if there is a demand for such an article, it is because a danger, more real than perusal of the newspapers might suggest, is upon us, and not because motorists in general have become causelessly panic stricken.

Extraordinary ingenuity is usually exercised by the thieves, and when one reads of a car being started up and driven off with success, under the owner's very eyes, it seems that we must use equally ingenious methods to combat them. The "Q" idea, instead of camouflage, would be useful here, in the shape of a live high-tension current through



"PAINFUL FITS OF FORGETFULNESS."



"LOCATE THE MAGNETO BEFORE MAKING A BID."

the steering wheel—were it not for the liability of the owner to indulge in painful fits of forgetfulness.

We have been talking about theft, pure and simple ; but what can we call the process by means of which a car of some little antiquity, as motor-cars go, is camouflaged into the semblance of a comparatively recent, pre-war model, and palmed off at a price correspondingly far in advance of its value upon an unsuspecting purchaser ? There is the best of reasons for believing that this is being done on a fairly large scale in connection with the present boom in second-hand cars, and the advertised warning of Rolls-Royce, Limited, that " attempts are being made by certain persons to bring up to date pre-war Rolls-Royce chassis by substituting for Rolls-Royce springs of old type, cantilever springs which are not of Rolls-Royce manufacture . . . ." is, at least, suggestive. The firm's trouble, of course, is that unauthorised alteration to their chassis, and the use of parts not of their manufacture, not only automatically breaks their three years' guarantee (which, incidentally, has lapsed in the years of the war), but renders them unable to accept responsibility for the behaviour of such a chassis.



A FORD CAR TRANSFORMED.

It may be that in every one of the instances which have come under the notice of the firm there has been no intent to deceive, but simply a desire on the part of some former owner to have the latest improvements without indulging in a complete new car. Or it may be that a number of old Rolls-Royce cars have been " cornered " by some unscrupulous person, who then proceeds to remove or alter everything that puts a date to the chassis, and sells them as models of more recent years.

Whatever may be the truth of this, it is obviously up to the prospective purchaser of any second-hand car to make a note of the chassis number and get into touch with the maker. But, even if the year stated by the seller proves to be actually that of the car's manufacture, and the price asked is a fair one, it is still possible that dangerous alterations to the chassis have been made, and personal safety is certainly worthy of consideration to the extent of comparing the car as it stands with its original specification in vital matters. If the car has been doped in any way, be wary ; if the chassis number has been removed, hidden or defaced, either leave the car alone or make even more careful inquiries. The purchaser in the second-hand market always did require to have his wits about him, but he needs to be especially careful just now.

To bring the matter even more closely into connection with the war, the case of ex-army cars may be mentioned. If purchased direct from the Disposal Board, it is to be presumed that the car is bought without any guarantee beyond the fact that it is as it stands, and as you see it ; but it might conceivably pay to lift the bonnet and locate the magneto before making a bid. While one might be prepared to acquire a car minus a " mag," the deficiency would naturally affect the price one would offer, and the magnetos of army cars seem to be peculiarly susceptible to mysterious disappearances.

Many of these old army cars, too, suffer from just those lapses from the straight path of their original specifications which have been brought to attention by the firm of Rolls-Royce. Breakdowns, needless to say, were far more common under conditions of warfare than in peace usage, and, although a remarkable stock of spare parts was maintained in availability for every front, occasions arose when the M.T. repair shops had to turn to and either make a rapid repair to get the car temporarily on the road again, or to manufacture a new part out of the material at hand—material, often, which the maker of the car would consider most unsuitable. However, many a temporary repair has had to stand more or less indefinitely " owing to the exigencies of the service," and it is quite possible that among these cars which are now retiring into peaceful, private service, some may be found with parts the workmanship of which is open to criticism and the longevity to suspicion.

And now to turn to a species of camouflage which has a better end in view than the deceptions already mentioned. It must be agreed that anyone who transforms a member of the genus " Tin Lizzie " into a motor-car with a certain amount of individuality has performed a public service. Absolute, unalterable standardisation, we know, has its very valuable points, but, carried out as it must be in a car produced in such numbers as the Ford, it is an artistic misfortune. And if you look through the pages of any motoring journal you will most likely come to the conclusion that people who possess cars of European parentage are described as motorists, or, maybe, motor-owners, whereas it is customary to speak of " Ford users."

Now, Mr. George England, of 193, Regent Street, has set out to show that this differentiation is not necessary, and the Ford submitted to his ministrations comes out of the camouflaging process so unmistakably improved that at once the possessor attains to the dignity of the title, " motorist." Incidentally, it may be that the great influx of cars, each one of which is a facsimile of many others—not only in build and line, but even in the equipment by means of which the owner of a European car is usually able to give his vehicle a more or less distinctive touch—is responsible for the increase of motor thefts. And it may be that Mr. England has unintentionally succeeded in giving us a practical theft-preventer, so far as this one make of car is concerned, at the same time that he has beautified the landscape.

The tendency to increase prices, which is an unfortunate but noticeable feature of the European motor industry, appears to be just as general in the United States. Pierce-Arrow and Locomobile prices have gone up well over £200, while increases of about £20 are the rule rather than the exception.

CARCASSONNE.

VERY rare nowadays are ancient cities which are completely encircled by a wall. In England, of course, Chester is the one outstanding example, while on the Continent the finest survival of a walled city in a perfect state of preservation, with no ruins whatever, is undoubtedly Carcassonne, 56 miles S.E. of Toulouse. True it is that the circumstances of modern growth have led to a larger town being built outside, but the old Cité stands high on a rocky eminence, and is entirely separated from the modern city on the broad plain below.

The old Cité was built by the Visigoths in the sixth century on the site of a camp founded by Julius Cæsar. The fortifications were added to successively in the ninth and thirteenth centuries, but at a later period fell into partial ruin. About eighty years ago, however, a scheme of restoration was begun which extended over fifty years, with the result that the old Cité is now a French national monument of a perfect kind.



A CORNER OF THE BATTLEMENTS.

no fewer than 52 towers, some of which are round and some square. The Cité presents a wonderful picture from outside, and is no less wonderful from within, while the view from the many-turreted ramparts is alike expansive and impressive.

No one who sets off southwards for a motoring tour in the Pyrenees should fail to take Carcassonne *en route*; it will be found amply satisfying, and indeed may almost be described as the most interesting show-place in France.



THE ANCIENT WALLED CITY OF CARCASSONNE.

Withal it is on a grand scale. The outer wall is 1½ kilometres in circumference, and there is also an inner wall which measures over a kilometre. The fortifications, moreover, include

THE OLYMPIA SHOW.

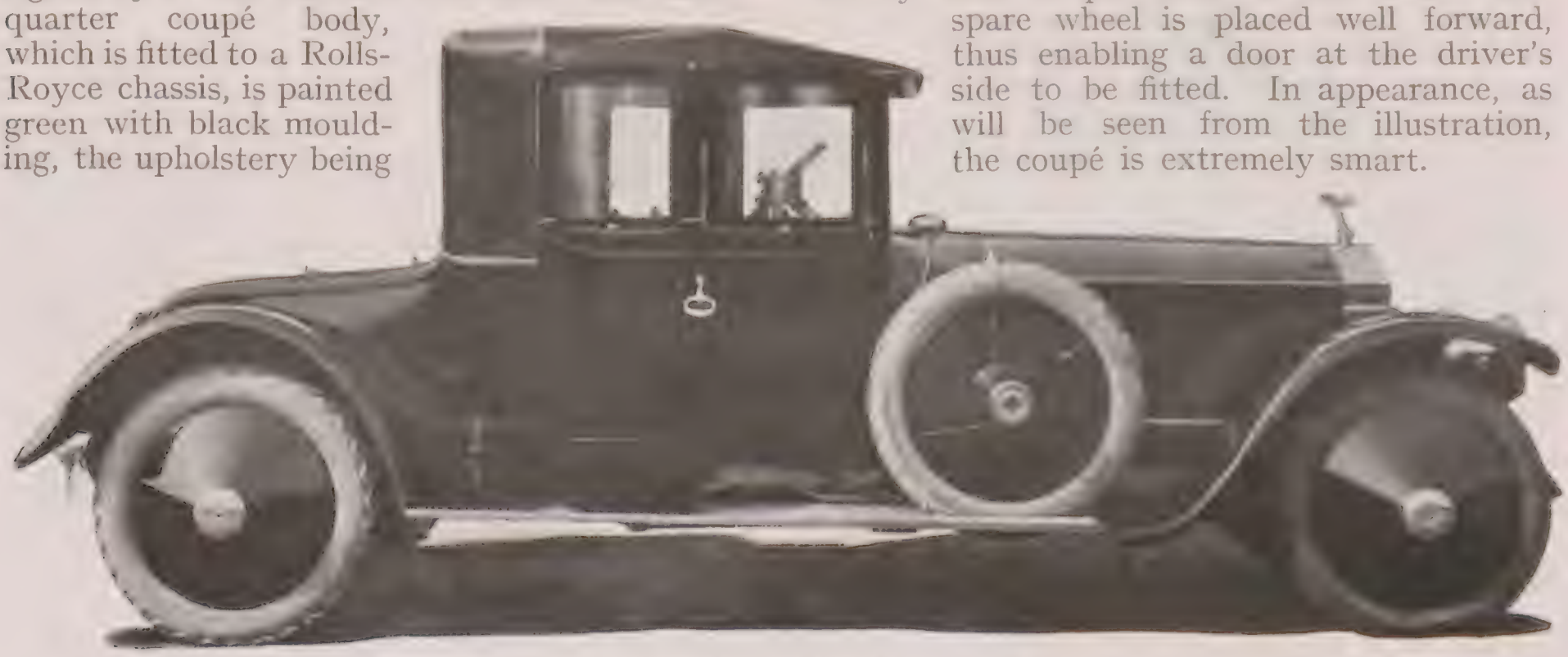
IN the August number of THE MOTOR-OWNER we published a list of the principal firms in the automobile industry which had secured central positions in the Olympia ballot. This month we are able to indicate, by means of stand numbers, the position in the hall in which the better-known makes of cars may be found. But the fact must be borne in mind that although the exhibition will not be held until early in November next—the actual date of opening being November 7th—the present condition of the industry is so unsettled as an aftermath of the war that it does not follow that all the cars whose makers have prospectively secured space will be actually on view. According to present intentions, however, the following cars are among those which will be exhibited. the stand number being given alongside the name of the vehicle in each case :—

A.B.C.	...	...	105	De Diétrich	...	...	71	King	...	...	104
Albert	...	...	109	De Dion-Bouton		...	61	La Buire	...	...	78
Ancona	...	...	10	Delage	...	...	82	Lagonda	...	...	9
Angus-Sanderson		...	96	Delahaye	...	...	98	Lanchester	...	...	64
Arrol-Johnston	...	...	48	Delaunay-Belleville		...	86	Lancia	...	...	91
Austin	...	...	54	D.F.P.	...	...	107	Leon Bollée	...	...	124
A-C	...	...	68	Dort	...	...	31	Little Midland	...	...	121
Bayard	...	...	60	Duplex	...	...	15	Marlborough	...	...	20
Bean	...	...	17	Electromobile	...	...	11	Mascotte	...	...	18
Beardmore	...	...	18	Enfield-Allday	...	...	77	Mercury	...	...	120
Belsize	...	...	42	Ensign	...	...	59	Meteorite	...	...	113
Berliet	...	...	39	Farman	...	...	7	Minerva	...	...	21
Bianchi	...	...	103	F.I.A.T.	...	...	67	Morris-Cowley	...	...	23
Brasier	...	...	45	Gladiator	...	...	60	Morris-Oxford	...	...	24
Briton	...	...	30	Grahame-White	...	...	108	Napier	...	...	73
Bugatti	...	...	52	Grégoire	...	...	38	Newton	...	...	77
Buick	...	...	70	Guy	...	...	84	Oldsmobile	...	...	79
Cadillac	...	...	90	G.W.K.	...	...	41	Overland	...	...	40
Calcott	...	...	115	Hammond	...	...	123	Paige-Detroit	...	...	22
Calthorpe	...	...	66	Hampton	...	...	27	Palladium	...	...	30
Chandler	...	...	1	H.E.	...	...	100	Panhard-Levassor	...	...	89
Charron-Laycock		...	35	Hillman	...	...	85	Peugeot	...	...	97
Chenard-Walcker		...	111	Hispano-Suiza	...	...	118	Phœnix	...	...	45
Chevrolet	...	...	99	Horstman	...	...	110	Piccard-Pictet	...	...	11
Chiribiri	...	...	8	Hotchkiss	...	...	83	Renault	...	...	93
Clement-Talbot	...	...	85	Humber	...	...	88	Riley	...	...	102
Cosmos	...	...	20	Hupmobile	...	...	81	Rolls-Royce	...	...	74
Crossley	...	...	92	Hurtu	...	...	37	Rover	...	...	103
Daimler	...	...	75	Imperia	...	...	26	Ruston & Hornsby		...	3
Darracq	...	...	93	Iris	...	...	62	S.A.V.A.	...	...	94
Dawson	...	...	25	Isotta-Fraschini	...	...	94	S.C.A.T.	...	...	74
Day-Leeds		...	32	Itala	...	...	16	Scripps-Booth	...	...	70
Deemster	...	...	95	Jackson	...	...	45	Seabrook	...	...	31
								Sheffield-Simplex		...	88
								Siddeley-Deasy	...	...	17
								Singer	...	...	62
								Sizaire-Berwick	...	...	95
								S.P.A.	...	...	5
								Standard	...	...	48
								Star	...	...	106
								Straker-Squire	...	...	54
								Sunbeam	...	...	46
								Swift	...	...	59
								Thorp	...	...	80
								Turner	...	...	31
								Unic	...	...	109
								Vandy	...	...	2
								Varley & Woods	...	...	18
								Vauxhall	...	...	44
								Vermorel	...	...	27
								Vinot	...	...	100
								Vulcan	...	...	48
								Waverley	...	...	113
								Wilton	...	...	24
								Wolseley	...	...	86
								Zephyr	...	...	31

The forthcoming show is the 13th of the series, and, as in the case of former exhibitions, has been granted the honour of the patronage of His Majesty the King.

NEW BODY DESIGN.

IN the accompanying illustration may be seen one of the first post-war bodies as designed by Messrs. Salmons and Sons. The three-quarter coupé body, which is fitted to a Rolls-Royce chassis, is painted green with black moulding, the upholstery being in rich green Bedford cord. There is ample seating accommodation for three, while a dickey seat is provided at the back. The spare wheel is placed well forward, thus enabling a door at the driver's side to be fitted. In appearance, as will be seen from the illustration, the coupé is extremely smart.



A POST-WAR THREE-QUARTER COUPÉ BODY.

"Auto-Suggestion."



THE OWNER: "GREAT SCOTT! MY *NEW* CAR'S GONE!"
HIS GUEST: "IT MUST BE A SELF-STARTER—EH?"

THE SOCIAL WHIRL.—By MARCUS.

PARLIAMENT rose and Society's rear-guard sped from London in the middle of last month amid the rumblings of a national reconstruction that is carrying us no man knows whither. Out of the welter of protest against unjustifiable strikes, of arraignment of self interest, of anxiety as to the future of the race, emerged one noble and stimulating visionary flash. It came from Mr. Hoover, the American who, during the war, laboured so finely to alleviate Belgian sufferings. "What we need," he said, speaking particularly of industrial unrest, " is what for want of a better term I will call a spiritual revival. Somehow, and by some means, the sense of service that dominated the Allied people during the war must be revived." A gospel that will influence and encourage many who believe that the nation is sound at heart and only waits the plain and sincere leadership that will guide it out of the miasma of distrust and suspicion that has tended to fog its best instincts.



IN THE WILDS OF GLEN CROE.

The King in the Highlands.

The King, always hard-worked, is at last free



AMONG THE HEATHER: MOTORING IN THE PERTHSHIRE HIGHLANDS.

The Processional Way.



The impressive stateliness of the Mall is strikingly displayed in the illustration herewith, and it forms a fitting souvenir of one of the most memorable seasons in British history.

from the exceptional demands of State that followed the signing of Peace, and at Balmoral is leading the simple life that he likes best. When in the Highlands he takes a short walk or ride before breakfast, and afterwards sets off for a day's shooting or deer-stalking. In the immediate neighbourhood of Balmoral sport is not particularly good, and considerable journeys are necessary. In King Edward's time ponies were mostly used, but nowadays the motor-car comes in as a time-saver, and the Royal party returns in time for His Majesty to deal before dinner with matters that demand his attention whether he is on holiday or not.

Though shooting is his favourite sport, the King likes salmon fishing, and this year is visiting the Duke of Richmond in Banffshire for that purpose. It was in the Spey that, years ago, he fell into the water in his excited efforts to land a fish. The Prince of Wales, not a very keen fisherman, is sampling Canada's best rivers.

The Prince and Matrimony.

When the Prince returns from his trans-atlantic trip it will, I fancy, be public property that he has entered into a matrimonial engagement. Further, the bride-elect will be of neither American nor Canadian birth, but British—a hope and a wish that has strengthened among all classes since the close of the war. This report of the Prince's engagement has agitated the newspapers for some time past, but even those who doubted it now regard the report as being founded on fact.

By the way, the notion that the Heir-Apparent is called "David" by his immediate friends is still fostered in some circles. It was an idea that was given publicity because it was believed that Queen Alexandra liked the name. As a matter of fact the Prince has always been "Eddie" to his intimates. I myself heard him called "Eddie" many times at the last Ascot meeting; and I have also seen letters written by the Prince to young men who were his associates at Oxford. He signed himself "Edward" sometimes, but more often "Eddie."

"Too Old to Charm."

A visitor to Deauville, that Paradise of expensiveness where it seems inconceivable that there should be women without pearls and men without huge, gliding motor-cars, tells me that womankind there has made full return to all that was delicately luxurious: soft mousselines and dainty lawn, subtle blues and pinks and mauves, necklaces that only millionaires could purchase, the clever make-up that is hardly noticeable. Gone are the sad and sombre liveries of war—and mourning.

And this friend, recalling the many stories of beautiful women spies, asked the secret service man who sat with him whether women had been of real use as international agents during the war. The secret service man smiled and shook his head, and then said "We found that the woman, young and good-looking enough to fascinate by her wiles, lacked the wisdom to appreciate what was and what was not information. By the time a woman has learned that she has become too old to charm."

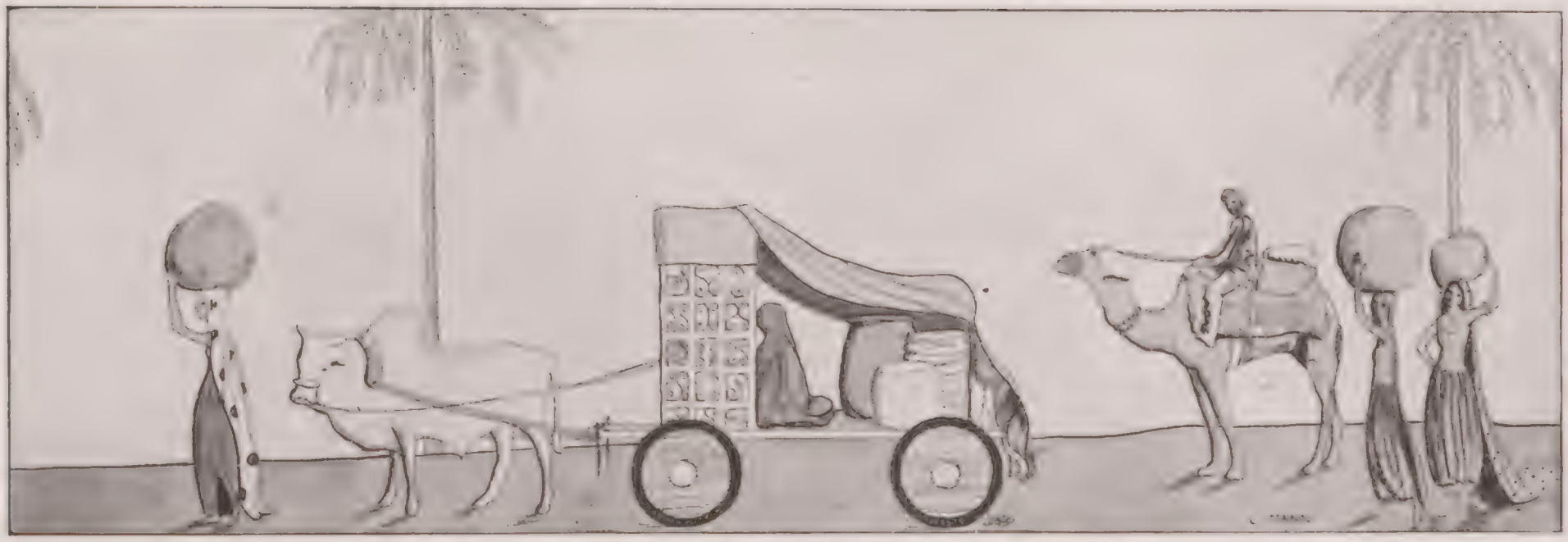
Seaside Profiteering.

Deauville, still the dearest of French seaside resorts, with the highest play at the tables in all France during the race week, has been particularly popular this year with those British social butterflies who have always done themselves well and have also made money during the war. A hundred and sixty francs a day for a tiny room has not made them pause and think. Ostend has been making valiant attempts at a revival with baccarat sans zero, and pleasant dancing clubs, and golf. Wise folk who wanted to holiday abroad chose Dieppe, where there were not too many English visitors and prices ruled only 20 per cent. above pre-war charges.

At home all the seaside places have done amazingly well; and, having exercised their privilege of "grousing" at "profiteering," whether it was deserved or not, the majority of the visitors really enjoyed themselves. Two friends who tried North Wales this summer did not have luck with hotels. The Royal Automobile Club is very careful in its appointments, but at one house on the club list there was a bed without pillow-slips. The housekeeper's only explanation was that the laundry nowadays was so slow in getting the washing done.

Our Illustrations.

Royalty, of course, is not alone in seeking relaxation and recreation in the Scottish Highlands, and many a car during the past few days has been turned northwards towards the land of heather. Our illustrations afford typical views of motoring scenes among the mountains. The photograph of Glen Croe was taken at the summit of the famous hill known as "Rest and Be Thankful," particularly well-known in past years to the participants in the Scottish Reliability Trials. Time was when it was regarded as fairly formidable, but nowadays it is well within the capabilities of any touring car. The steepest gradient, in fact, does not exceed 1 in 8.



The Queen of Sheba's "Large and Well-Provided Caravan."

WOMAN AND HER LUGGAGE.

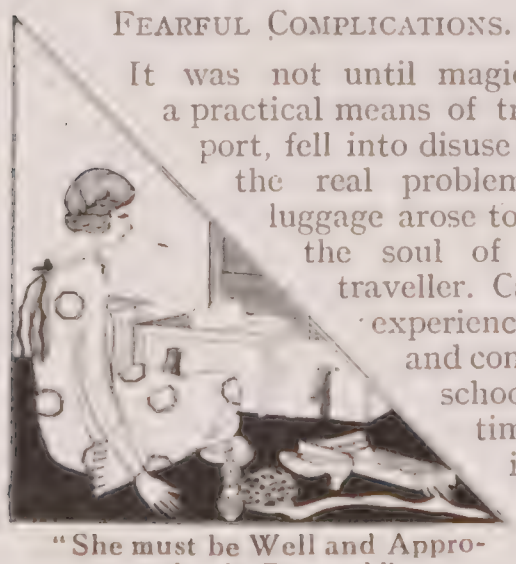
SINCE the days of Julius Cæsar, and even before him, luggage has been for women a question of burning interest. We are not told what manner of impedimenta was affected by Eve when she packed her wardrobe to leave the Garden of Eden, but in all probability it was of the light marching order. A week-end case of small dimensions would have held all, and more than all, that she needed. Balkis, Queen of Sheba, when on her historic visit to King Solomon, must certainly have exceeded to a considerable degree the modern luggage restrictions; but then she doubtless had at her command a large and well-provided caravan of swift dromedaries, not to mention a train of miracle-performing Djinn — the equivalent in those days of our modern motor and air vehicles, at least for such persons as possessed the art of magic or a convenient talisman. Aladdin found his lamp and its slave quite as serviceable, one imagines, as a Rolls-Royce or a Handley-Page.

Fearful Complications.

It was not until magic, as a practical means of transport, fell into disuse that the real problem of luggage arose to vex the soul of the traveller. Cæsar experienced it and complained bitterly, as every schoolboy knows, and since his time the question has grown in trouble and complexity. It would tax the powers of even the most powerful Djinni to fit into a motor-car both a woman and the luggage required for her comfort. When the difficulty is complicated by two or more women and their impedimenta, the mere male motorist is tempted to flee shrieking to the nearest woods. The task of passing a camel through the eye of a needle, or even of getting a rich man into heaven, is as nothing in comparison. To see the size and number of boxes, cases and dressing-bags that some women regard as a necessary accompaniment, one might imagine that cars were made of india-rubber and capable of unlimited distension.



"The Real Problem of Luggage."

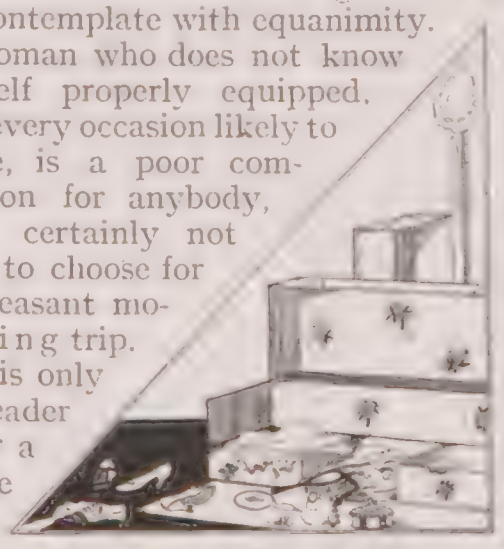


"She must be Well and Appropriately Dressed."

The Man's Point of View.

It is all very fine to preach restriction and require a woman to limit herself to one small hand-bag; that is something no feminine creature has ever willingly achieved nor ever will. Moreover, if she did succeed in carrying out this counsel of perfection, the effect of the stupendous effort upon her temper and on that of her travelling associates is something too awful to contemplate with equanimity. A woman who does not know herself properly equipped for every occasion likely to arise, is a poor companion for anybody, and certainly not one to choose for a pleasant motoring trip.

In justice to women it is only fair to remind the male reader that he is to blame for a great portion of luggage trouble. The average husband apparently expects his wife not only



"Charmingly Lined with a Flowered Material."

to compress her entire wardrobe into a receptacle designed to contain, at most, a pocket-handkerchief and a powder-puff, but to do him credit in the eyes of the world. Wherever and whenever she appears in his company she must be at least as well and as appropriately dressed as any other woman he is likely to meet. Nothing so humiliates a man's sense of dignity as to have his wife fall short of the most exacting standard of feminine smartness. Between the Scylla of a stern husbandly veto on excess luggage and the Charybdis of his righteous wrath should she fall into the unforgivable sin of dowdiness, what is a poor woman to do? There would seem to be no solution save the Divorce Court or a return to the elegant if somewhat chilly simplicity of the Garden of Eden.

A Matter of Curves.

No deadlock is so bad as it sounds, and fortunately for women the motor-car is an obliging creature if one takes the trouble to humour it and accommodate one's self to its little ways. By the exercise of ingenuity, all kinds of odd corners can be utilised and space turned to account that would otherwise be wasted.

Consider, for instance, the shape of the ordinary box, hopelessly square and unyielding. Strap it to the luggage rail at the back of your car, and see how much space is wasted between its uncompromisingly straight side and the curve of the car-body. Consider also the unsightliness of a pile of heterogeneous suit-cases roped together and protruding at different angles. It is no less than an insult to a smart car to load it with a cargo reminiscent of a peddler's stock-in-trade. Again, ordinary boxes have the drawback of being by no means impervious to dust.

The great thing to bear in mind about motoring-luggage is that convenience, space and sightliness go hand-in-hand. If instead of loading your car with an amorphous collection of trunks and portmanteaus, culled haphazard from the box-room, you provide for it luggage built to fit its curves, you will reap a rich reward. Not only will you practically double the carrying capacity of your car, but you will gain immeasurably in both neatness and comfort.



"The size and number of boxes . . . . that some women regard as a necessary accompaniment."

Deceptive Appearances.

There are boxes obtainable which, besides fitting the curved back of the car, are especially designed to serve the convenience of the motorist. These, being planned for feminine use, are not entirely what they seem, for what appears to be a box is merely an outer shell containing two or three separate cases. This arrangement effectually prevents the crushing which is inevitable when too many garments are packed in a single receptacle—boots cheek by jowl with delicate evening frocks, brushes and bottles in unsafe proximity to chiffon lingerie—and it also protects the contents from the ravages of rain and dust. Some of these boxes are charmingly lined with a flowered material, for the makers happily realised that a dainty woman requires daintiness in all her equipment. Other boxes are designed to be lodged on the top of a closed car, and still another variety finds a comfortable perch on the running board.

When space is available under the seat it can be utilised for the reception of a luncheon or tea basket as well as a dressing case, and side pockets shielded by a buttoned or otherwise fastened flap will contain a surprising number of small articles. Loose cushions provided with flat pockets will afford a welcome refuge to veils or even a light dust or rain coat smoothly folded. With all this space at her disposal the woman motorist should have no difficulty in finding a place, not only for the essentials of her wardrobe, but for all those accessories which make the difference between bare existence and joyous life.

Boadicea.

From preliminary reports in connection with the forthcoming Paris Automobile Salon, the inauguration of which has been fixed for October 9th next, it appears that a more internationally representative character will be imparted to the 1919 exhibition than to any previous one. The British contingent numbers more than twenty firms in the various sections, while among the home-produced cars which will be on view are Austin, Daimler, Sunbeam and Wolseley vehicles.



THE MAJESTIC CLUB-HOUSE AT STOKE POGES, WITH THE HOME GREEN ON THE RIGHT.

THE GOLFING MOTORIST.—By R. ENDERSBY HOWARD.

ONE of the places in the outer London area which the golfing motorist makes a point of visiting sooner or later—and revisiting whenever the opportunity presents itself—is Stoke Poges. Almost is it the final word in golf club stateliness and spaciousness: a veritable palace in a setting of play. To be sure, there is nothing in the course itself which strikes a note of luxury or easy indulgence; it is long and well-bunkered, it keeps the player thinking all the while, as well as hitting hard at most of the holes, and it has several short holes of exceptional merit, including one which, from the back tee, calls for a very difficult carry over a lake.



THE BUNKERS GUARDING THE 7TH GREEN.

But the visitor is impressed as much by the grandeur of the club-house as by the excellence of the course, and it is good to be able to say that both have resumed their pre-war glories. Standing in the middle of a large park, the club-house—with its three dining rooms, winter garden, drawing room, billiard room, numerous bedrooms, and every other necessity of comfortable hotel life—affords a striking example of picturesque dignity in rural Buckinghamshire.

How the course was maintained in the years of stress is a story worth telling. When labour was down to the last ebb, some of the lady members offered to work on the green. And right well did they carry out their duties. Two of them took a horse each, and mowed the entire course when the growth of grass on the fairway was becoming formidable. Each made herself responsible for a nine-holes loop—for Stoke Poges is designed on the principle of two nine-hole loops, with the club-house at the half-distance. One of these workers was the niece of a duke.

No part of the actual course was ploughed up for agricultural purposes, for the club had a good deal of other ground which it was able to devote to the production of crops, and of this more than 100 acres were sown. In the sense that it supplies most of its own food, Stoke Poges is the nearest approach to a self-contained golf club of which I have heard. The founder, Mr. N. Lane Jackson, allotted 300 acres of the estate to farming, and on this farm are dairy cows and hundreds of sheep. The club finds itself in mutton, butter, milk, vegetables, and almost every other foodstuff that can be produced in this country.

To appreciate how esteemed a rendezvous it is of golfing motorists, one has only to be present on a fine day during the week-end. For 150 cars to arrive laden with enthusiasts of the links is no uncommon circumstance. Even when

the strain of war was only just beginning to lift, and people were starting somewhat tardily to resume their old-time recreations, a keen motorist was so impressed by the nu mber of cars that arrived one Sunday that, on entering the garage, he could not resist the temptation to estimate their total value. He made it £50,000. Of fifteen cars that drew up within a period of a quarter of an hour, thirteen



THE CARRY FROM THE 9TH TEE (STOKE POGES).

were Rolls-Royces. I suppose that they contributed a good deal to his assessment.

Another course which is rapidly growing in favour among golfing motorists is Sonning-on-Thames. It is situated about three miles from Reading and just off the Bath Road, so that it is an easy run from town. Sonning-on-Thames, where all the leading professionals will be playing in September, was opened only a week before the war broke out—the last green that Mr. H. S. Colt planned in the old era of peace.

It is now coming into the kingdom that it deserves. It has the best brains of its architect's vast experience, and as an autumn, winter, and spring course, it has few equals, because it is never in the least degree muddy and there are no wormcasts. The lies for the second shots—of which there are many full ones—are perfect.

Outlying portions of the course were claimed for agricultural purposes, but the course itself was saved by the circumstance of its proximity to the big flying school at Reading. The commanding officer desired that the men in training—particularly those who had flown in France—should play golf whenever possible. It was, indeed, an express wish of the Royal Air Force medical department that pilots should engage in golf and other games at every opportunity; it was realised that healthful outdoor sports would do more to keep a pilot's nerves in order than any other forms of amusement.

Consequently the Sonning course was thrown open, free of charge, to the airmen in training at Reading, and they patronised it in very large squadrons. Thus did Sonning do its bit. Probably it was the first course in the country to which players flew by aeroplane. The spectacle of a machine alighting with golfers and golf clubs on board was so frequent as to be commonplace.

Naturally the war resulted in a loss of



THE WAY TO THE 4TH GREEN AT SONNING-ON-THAMES.

many thousands of pounds to the club, but it kept its end up and entertained parties of wounded soldiers every week.

One glory of the course is its high position; there is always a breeze blowing—even on the hottest day—and the air is as bracing as on the average seaside links. There are people who affirm that the four short holes are the best to be found anywhere inland. Each has its own character and charm.



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It is among the wondrous things of golf that, on two occasions, Abe Mitchell has been round this long and difficult course in 63. But he did these scores before he went with the artillery to France and when he could drive even farther than he does to-day. The ordinary scratch player may consider that he has put up quite a satisfactory performance when he has accomplished a round of 78.



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OLD ENGLISH INNS.

By REGINALD WELLBYE.

MANY and curious are the associations clustering about the old inns which stand beside our historic highways of travel. Although the inn developed into the latter-day hotel, just as the hotel seems to be developing into a kind of super-hotel compared with the late-Victorian variety, it is something more than just an early edition of its lineal descendants. As with the hotel, the prime object of its existence was certainly always the accommodation of travellers.

But its experience was wider. It belonged to the days before restaurants, public halls, theatres, clubs, and other semi-public institutions which the complexity of modern life has called into existence, were known—and it had to fill many parts. The times, too, in which it flourished were more picturesque than our own can ever come to seem in the eyes of posterity. And then, again, the very difficulties, inconveniences, and dangers of old-time travel tended to throw the wayfarer upon the inn to an extent which does not occur when the chances of being weather bound on a journey are as remote as they have now become. Altogether, then, the inn of yore loomed much larger in the experience of most folk than the hotel does to-day, and, touching life at more points, its career was more eventful, while the happenings associated with it were more diverse.



THE GEORGE, GLASTONBURY.

It is not easy for us, from our close point of vision, to see in what light posterity will view the modern hotel, but it is safe to predict that the glamour of any romance with which the latter may come to be invested will never approach in depth that which surrounds the romance of the hostelries which have been bequeathed to us from the Middle Ages. Relatively, these chips from medieval road life are not numerous, but, actually, they make a respectable company. Many of them are linked, in legend, with the days of pilgrimages, and have been vaguely classed as "Pilgrims' Inns," a term carrying with it the suggestion that the pilgrim was the *raison d'être* of the inn's existence, or at least its chief supporter. Few inns of the time can have escaped the patronage of that roving figure which historical distance has made picturesque so far in excess of its deserts, and in a sense almost all medieval hostelries must have been pilgrims' inns, but inns which were built for pilgrims, or whose custom was mainly pilgrim, are far fewer in number.

Not many old hostelries have as good claim to the title of pilgrims' inn as the George, at Glastonbury, and certainly none looks the part so completely. Its beautiful front, wrought in an age when, though Gothic architecture had passed its meridian, poetry in stone was still written, at once recalls the England of the old faith. For seven hundred years the roads and paths across Sedgemoor were worn by the feet of visitors to the great abbey of Glastonbury—pilgrims,



THE NEW INN, GLOUCESTER.



THE BELL, STILTON.

and hosts of others besides, who thronged to the palace of every great churchman. For all of these, according to their station, the Abbey had accommodation, and as the numbers grew it raised a great hospitium without the Abbey gate—a building which, after the Dissolution, itself

became an inn. This accommodation proving barely adequate at times, Abbot Selwood, in the reign of Edward IV., built the George Inn, in the middle of the town, where guests might lodge, not by the charity of the Church, but "at their own proper charges."

From that day to this the George has offered shelter and good things to the traveller, although the town lost almost all its importance with the suppression of the Abbey. Perhaps from this latter fact the inn has no history since the Middle Ages—no event, no famous person, seems to be



THE LYGON ARMS, BROADWAY.

associated with it, and its interest for us centres around its pilgrim days. A very singular part of its original appointments, which still exists, was a cellar containing a recess through which there flowed a spring of chilly water. From the presence of a stone seat so placed as to allow of a person sitting immersed up to his knees it has been reasonably conjectured that this was designed as an instrument of penance. A very interesting feature of the exterior is the manner in which a corbelled bracket to carry a signboard has been incorporated in the architectural design.

Very similar in its origin, and equally designed in the first instance for the accommodation of pilgrims, was the anachronistically named New Inn, which still stands and prospers hard by the Cross, in the old city of Gloucester. Its very quaint galleried courtyard, fashioned of stout chestnut from the Forest of Dean, is well known to tourists, though less generally noticed is the beautiful carved angle-post, with its angel to welcome the stranger, at the corner of New Inn Lane, adorning a part of the premises which has been converted into shops. The New Inn was originally built, as record shows, by one John Twynning, a monk of Gloucester Abbey, somewhere about



THE GEORGE, NORTON ST. PHILIP.

the year 1450, being required because of the great concourse of pilgrims attracted to the Abbey church (now the cathedral) by the shrine of the murdered Edward II.

The monk built well, and much of his work remains, incorporated in the present structure. The courtyard, where the company of players of a certain William Shakespeare—whether the immortal bard or another is in doubt—once performed, wears, of course, a somewhat more modern face, but the old beams which abound in the house, and the exterior carving which is to be seen in the New Inn Lane, including the angel aforementioned, mark the labours of the monk or of the craftsman who worked under his direction.



THE GEORGE, HUNTINGDON.

Another fine old hostelry which has come down from the Middle Ages is the George, in the quiet little Somersetshire village of Norton St. Philip. This beautiful old house, built mainly of stone, though its projecting upper storeys are fronted with timber and plaster, claims to have held a licence since 1397, but though there may have been an inn on the site at that early date, the present building is of the mode of a century later. The probabilities would seem to be that it was built by the monks of the neighbouring monastery of Hinton Charterhouse, partly, perhaps, with the object of accommo-

dating the merchants and others attracted to the wool fair which they had instituted at Norton. In the George itself, according to tradition, the merchants were accustomed to transact their business, but the most interesting associations of the old place are those which connect it with the ill-starred Duke of Monmouth. The Duke is reputed to have found here a temporary refuge from his pursuers, and his confined hiding place, at the end of the great room under the roof, is shown; while the story goes that, when, somewhat earlier, the house was serving as his headquarters, he was seen and fired at by one of James's soldiers as he stood near the large bay window to the right of the doorway, on the first floor.

An inn with associations as historic as its exterior is romantic is to be found on the Great North Road—the Angel, at Grantham. A house of rare good fortune, this, which in one capacity or another has offered hospitality to the traveller uninterruptedly from the stirring times of the early Plantagenets, if not before, right down to this present age of motors. When, with the advent of railways, most of the great inns were either closed down entirely or at least had to lop off portions of their premises, the Angel never reduced by a single room the accommodation it could boast of in the golden age of coaching. All that faces the street is the modestly proportioned stone-built front of the medieval hostelry, and a glimpse of this does not disclose the measure of the inn's good fortune.



Photo. by] THE FEATHERS HOTEL, LUDLOW. *[C. L. Freeston*

But let the passer-by step through the low archway, and he will be astonished to see an enormous range of buildings whose 55 windows look out on to a yard almost big enough to drill a squad of soldiers in, and one is assured that during the hunting season the whole of the accommodation in this severe-featured 18th century addition is taxed to the utmost. The two portions of the Angel display clearly the increase in the scale of travel between the times of Edward III. and those of George III. or the Regency, and at the same time the decadence in building inspiration. There was a house here from very early times, a hospice, it is believed, of the Knights Hospitallers, and of their predecessors, the Templars, and in the year 1213 it was important enough to be deemed fit by King

John for the holding of his Court. The present house, too, has had its royal visitors. Twice did Charles I. cross its threshold, but more distinction was conferred upon it when, within its great room, now subdivided, Richard Crookback set his signature to the death warrant of the unfortunate Buckingham.

The story of the inns on the historic artery of travel between the two capitals would fill a volume in itself. Such hostels as the Bell, at Stilton, with its glorious wrought-iron sign bracket; the Haycock, at Wansford, a select posting house in its palmy days, but now closed and betraying its former function only by the presence of two corbels that once supported its signboard; the ivy-covered Bell, at Barnby Moor, a typical wayside inn of the best kind, which succumbed to the railway, but was re-established some years ago with the renaissance of the road; the famous George, at Stamford Baron, which has entertained kings and notabilities without number, from Charles I. down to Sir Walter Scott; or the old George, at Huntingdon, are to be numbered among the most famous in the land.



THE ANCHOR, LIPHOOK.

The last-named, which, strictly speaking, is on the Old North Road, is one of the galleried inns, a type of hostelry so closely identified with the picturesqueness and romance of the coaching age. More than any other this class has been shouldered out of existence, and very few examples now remain, the Golden Lion, at St. Ives, the Bull, at Dartford, and a fragment of the George, in Southwark, together with the New Inn, at Gloucester, already mentioned, being the principal exemplars left to us. The galleried inn was peculiar to the town, and the heavy hand of the improver has been more active in the towns than out along the open road. And truth to tell, bedrooms giving on to an open gallery, which was reached by an outside staircase, must have been subject to more drawbacks than the latter-day traveller would tolerate.

Few of Old England's inns are more beautiful in their way than the Feathers, at Ludlow, with its panelled rooms and its finely carved half-timbered exterior. This charming old house has been an inn for at least 263 years, but it was not originally built for that purpose. Erected, probably, towards the end of Elizabeth's reign, it is believed to have been occupied by the Lord Justice of the Marches of Wales, the magnificence of the interior fittings lending support to that view. The Royal Arms appear on the carved fire-place in the coffee room.

Another inn, almost a contemporary, too, which can hardly have been designed by its builder, whoever he was, for the entertainment of travellers, is the Lygon Arms, anciently the White Hart, at Broadway, not far from Evesham. It is said, however, to have been kept as an inn continuously since 1540, a date which cannot have been long subsequent to its erection, but nothing is known with certainty regarding its career until nearly a century later, when its fortunes were in the hands of John Treavis, who died in 1641. He it was who, twenty-one years before, added the renaissance porch and some ceilings and other internal embellishments. The interior is very interesting, containing a wealth of carving and panelling, massive beams and beautiful fireplaces. Associations, too, are not lacking, for tradition counts among its visitors not only the third and fourth Georges, but also Charles I. and Oliver Cromwell, the Puritan leader having slept here on the eve of the battle of Worcester.

No house, whether by its appearance or by its associations, better sustains the character which distinguished the best class of hostelry of the coaching age than the Anchor, at Liphook, on the Portsmouth Road. The days of the Napoleonic wars were great ones for the Portsmouth Road, and during that period and on up to the opening of the railway the Anchor flourished exceedingly. Wilkes, the agitator, who had a cottage in the Isle of Wight, frequently broke his journeys there, stopping to fish or write letters. Blücher once crossed its threshold on his way to London at the conclusion of the war, while later, William IV., when Duke of Clarence and High Admiral, was fond of looking in for a talk with host Dowling, who had seen service with him. Visitors well remembered for many a day by Liphook folk were the Duchess of Kent and the young Princess Victoria, who often stayed here and won much popularity locally by letting themselves be seen in the garden or at the windows.



THE ANGEL, GRANTHAM.

We must be content to leave the imagination to picture how prominent a part the inn took in almost every event of the day, how it was resorted to at elections, at turnpike lettings, at markets and fairs, at sessions and assizes, at civic feasts, and on many another public occasion, and how, too, it participated in every happening which ruffled the surface of the life that flowed along the highway at its door—war, peace, treason, insurrection, political turmoil, religious ferment, and anything else that gave men cause to talk or to travel.



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A TALL MAN'S PLAINT.

By CAPTAIN W. GORDON ASTON.

IT is singularly unfortunate for the motor-car manufacturer, who, in most cases, is sensible enough to see that his only chance of economic success is to be found in the direction of standardisation, that Providence has incorporated in the construction of human beings a thousand and one variations in height and width and cubic capacity. It is therefore perfectly obvious that, with fixed seating accommodation, a series of motor-cars, all of identically the same type, cannot provide an equal amount of comfort to all their respective drivers.

This, however, is a fact which nearly all motor designers appear to have entirely disregarded. There are a few of their number who, either by reason of their own "outsize" stature, or perhaps because their managing directors are not of standard proportions, have gone so far as to provide adjustable front seats, so that their cars can be driven by anyone between 4 ft. 2 in. and 6 ft. 10 in. For the same reason, in a few exceptional chassis, one finds provision made for adjusting the pedals, so as to suit drivers of different height; but it is one thing to enable persons of all reasonable sizes to drive a motor-car and quite another to enable them to drive it in comfort.

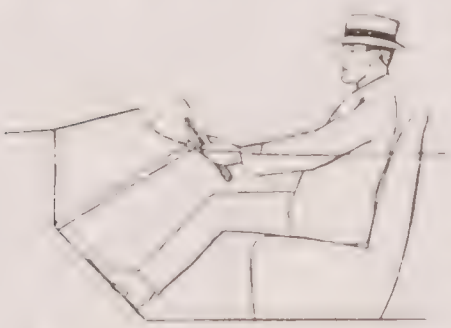


Fig I.—The Wheel Too Far Away.

In view of my own deplorable tallness, which is accompanied by an insatiable curiosity which impels me to drive every new car that I can lay hands on as soon as it is put upon the road, I have frequently been placed in a position which permits me to form a judgment upon these important matters.

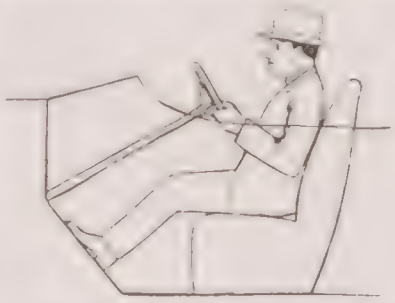


Fig II.—The Wheel Too Close.

It is true that I am an "out size," but, mind you, that fact ought not to preclude me from enjoying reasonable driving comfort in the ordinary form of standardised car, and I would incidentally point out that some of my most excruciating road agonies have been suffered behind the wheels of cars costing well over a thousand pounds. In the vast majority of cases, however, it will be found that the longer the price of the car, the longer can the driver be without having to fold his knees up, or otherwise disagreeably contort his body.

I propose in this article to confine my attention to the driver's seat only, for it is undeniable that the comfort of the other passengers, who have nothing to do but sit still, is more easily provided for.

Lest it be thought that in this matter I have the interests of only the owner-driver at heart, I would point out to those who employ a chauffeur that, to a very considerable extent, their lives and limbs depend upon the comfort which their bodybuilder provides for him, for I am satisfied that quite a large percentage of accidents occur as the result of fatigue; and this fatigue is just as much likely to be caused by having to suffer acute discomfort for quite a short time as by having to drive for a couple of hundred miles on end.

The worst offenders are those cars which have a fixed driver's seat and pedals of the non-adjustable type. On these the tall man is more or less helpless; the short one can bolster his back up with cushions, and so bring the steering wheel and the pedals within reach. The troubles of the tall man cannot, however, be thus palliated; his knees will have to be acutely bent, so that his pedal control is considerably weakened, and he can think himself lucky if the steering wheel is not in far too close proximity to his legs.

I remember driving one particular make of light car in which my knees could not be got under the wheel at all, but had to be carefully spread out, one on each side of it, in such a manner that an extraordinary bodily convulsion was required before I could get at either the change-speed lever or the brake lever. To drive a car in these conditions was, of course, the perfection of anguish. After ten miles of it, I handed the wheel over to someone else, but I do not disguise from myself the fact that for the whole of that distance I had been a menace to all other road-users.

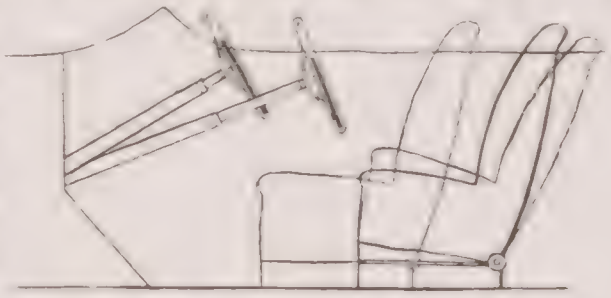


Fig. III.—The Scope provided by an Adjustable Column and a Sliding and Tilting Seat.

In this case, it is needless to say, a sliding seat would have been a great advantage. I am prepared to admit that such a device is an improvement on any case. My only criticism of such a system is that it does not go nearly far enough. The entirely fixed seating accommodation I regard as a shameful relic of ignorant antiquity.

The shortcomings of a seat, the movement of which is confined to sliding in a horizontal plane, are set out in the accompanying diagrammatic sketches, which demonstrate without any need of description the fact that, if you are short, the forward position of the seat tends to thrust the steering wheel under your chin, whilst, if you are tall, you are apt to find that you can only reach the wheel at arm's length.

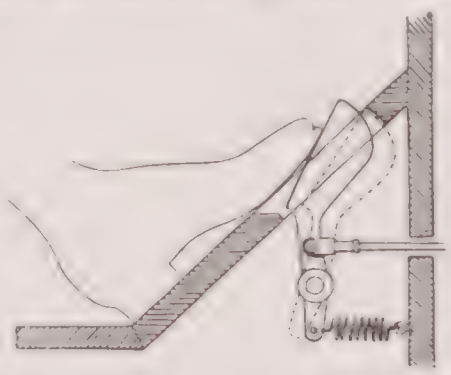


Fig. IV.—An Accelerator Pedal which permits the Foot to be Rested.

If true driving comfort is any object, the position of the steering wheel is of the greatest importance, as it is imperative that it should enable the arms to be placed in such a position that a good purchase can be obtained without undue effort; in other words, the forearm should be held more or less tangential to the rim of the wheel. It therefore seems to me essential that, if a sliding seat is provided, it should be accompanied by some form of adjustment to the steering column. Such an adjustment, being of a straightforward, telescopic type, need not give any motor designer a sleepless night, for he will be entitled to bear in mind that the device is a primary one which only on very rare occa-

sions will require to be touched—as, for instance, when a car changes hands. In these circumstances, it is obvious that the seller will bless the maker, as this adjustment will enable the former to impress the potential purchaser with the comfort of the vehicle. I cannot believe that the provision of such a device would be either difficult or expensive, whilst there is no doubt whatever that it would be both satisfactory and effective.

But let me hasten to add that, in my view, the telescopic steering pillar is still not sufficient to meet all the demands which can reasonably be made by persons of non-standard size, for it must be remembered that we all have our own ideas of a comfortable driving position. Some like to sit fairly upright, and for long journeys, I think, these are the wise ones, as is well shown in the fact that most American cars furnished with rather upright seats can be driven for very long distances without causing the driver discomfort. On the other hand, if the driver prefers a more reclining attitude, it should surely be easy for the car designer, or, at all events, the body designer, to enable him to realise his desires.

Such being the case, I hold that the steering pillar ought to be fitted with a joint, preferably incorporated with the steering gear-box itself, which would permit the pillar to be tilted at an arc of, say, 5° or 6°. This, in turn, would involve a slot in the dashboard, but I do not anticipate that the proper covering of this would involve any insuperable difficulties, whilst the advantages of such an adjustment, in conjunction with the telescopic device, would be very important indeed.

It may well be that these three features—sliding seat, telescopic steering pillar and adjustable steering rake—provide an entirely practical solution of the problem that has to be dealt with, but it is freely admitted that they do not provide a complete solution, for two other agencies are required: one is a tilting adjustment to the seat, enabling the angle of the back rest to be altered, and the other is a vertical movement of the seat so that the height of the squab above the floor can be increased or lessened as required.

I am inclined to think that the last-named adjustment can very well be dispensed with, for, to a certain extent, the tilting of the seat accomplishes much the same purpose, although there would be no harm in having the vertical movement, if it were found possible (as I feel confident it would be) to incorporate it without very much difficulty.

As a matter of fact, it would have this important advantage in conjunction with the other adjustments—that it would allow the driver to suit the height of his head to the opening in the wind-screen, and would at least give him, did he so wish it, a view of the front wings, which I have noticed on some cars of the sporting type are very nearly invisible from the driver's seat.

To return to the tilting seat, however; it may be pointed out that this contrivance is in being on quite a number of American cars, none of which, so far as I can make out, are unduly expensive, and therefore conclude that the mechanism required is not unduly complicated or costly, although I am satisfied that anyone who has tried the delights of a fully adjustable seat would consider the advantages cheap enough even if they ran into another ten-pound note on the cost of the car.

So far I have considered only seating and such controls as are looked after by hand, but most owner-drivers will agree with me when I say that the general arrangement of the clutch, brake, and accelerator pedals is amenable to much improvement.

First of all, let it be made clear that the use of a sliding seat and telescopic steering column would do away with the need for fitting adjustable pedals. In any case, these are bad, for although they do admittedly allow the short man to get his feet upon them, they generally demand that the driver must *keep* his feet upon them; for either the ordinary fixed ramp is out of reach, or the pedals are so far away from it that he finds it difficult and inconvenient, in the case of a sudden emergency, to replace his foot upon the pad. *Per contra*, it is undesirable that he should have continually to rest his foot upon the pedals. He will certainly not acquire such comfort thereby, and he will also run the risk of wearing out the clutch thrust bearing.

It is highly desirable that the pedals should not stand so high above the ramp as to necessitate the driver lifting the whole of his foot in order to get his boot sole in position. He should be able to get his toe on the pedal without taking his heel from the floor-board. If this is legislated for, his foot comfort will be much enhanced, and he will have a feeling of security that, whatever emergency crops up, he can instantly, and with the minimum of effort, get busy on brake and clutch.

Of all the pedals, none requires more careful study than that which works the throttle, as I have found a very large number of cars in which the comfort of the right foot could be attained in only three ways—either by going all out with the pedal squeezed down flat with the floor-board, or by giving no throttle opening at all, or by taking one's foot off the pedal altogether and driving on the hand control.

In this connection, I would observe that on more than one occasion I have come across cars that have been, so far as I personally was concerned, almost undrivable. The position of the steering wheel and the other pedals absolutely prevented my moving the accelerator, and there was either no hand control at all, or else it worked so stiffly over the deep notches of a ratchet that the control was not adequate for reasonable safety.

The spring behind the accelerator pedal should not be too heavy, but, on the other hand, it is of the highest importance that it should not be so weak, or the pedals so ill-placed, that the passing of the car over a bad road dump should be immediately and automatically accompanied by part of the front weight being thrown forward on to the accelerator. Anything more distressing than a car which suffers from gusts of throttle opening when negotiating a bad stretch of road can hardly be imagined.

My own opinion is that the inclined tongue type of pedal used on certain American cars is better adapted for comfort than the ordinary straightforward push-pedal, as it allows in almost any position of throttle opening for the greater part of the weight of the driver's foot to be carried on the floor-board, for the pedal, being inclined in shape, is pressed down as the toe of the foot is moved forward.

IMPROVING THE ROADS.

Some interesting facts concerning the relative damage caused to roadways by different types of vehicles, and the respective advantages of various modern methods of road-making, should be made public in the course of the reading of two papers, both entitled, "The Weight, Construction, and Speed of Mechanically-propelled Vehicles in Relation to the Construction and Maintenance of Roads," at the forthcoming Road Congress. One paper is to be read by a manufacturer of motor vehicles, and the other by a road engineer, so that the matter will be presented from both points of view.

Another valuable paper will deal with "Provisions for and Development of Traffic in the Future," with special reference to (a) the provision of new roads, (b) road finance, and (c) provision of new transport services.

The Congress opens on November 20th next.

A WOMAN'S NOTE-BOOK.

By CHRISTOBEL NICHOLSON.

SEEMS to me that I've heard a great deal of lamenting lately. Sackcloth is too expensive these days to make into clothes, and of ashes there are none, thanks to the miners. So the lamenting is all the longer and louder, and some of the most heartrending wails come from the woman motor driver. I don't mean that she is sorrowing for her lost job. It isn't that ; it's far, far, worse—she has lost her hands, and in their place are two rough, red, dirt-ingrained puddings. She realises too late that, although "clothes make the woman", beautiful hands often make up a man's mind.



A POST-WAR LADY DRIVER ON A POST-WAR VAUXHALL.

A Few Handy Hints.

As women are going to swell the ranks of motor-owners considerably, a few words on the subject of hands may prove useful. First and foremost, there is no reason to revel in dirt in order to be a good worker. I have seen girls—they are generally new to the game—



STILL AT IT! WOMEN DRIVERS OFF TO THE FRONT.

glorying in filthy hands and a smudgy face. They are entirely pleased with their appearance because they think that it looks businesslike. I went through it myself. I let my hands go for months ; then I had to wear evening dres again.

It was a rude awakening. I shed a bitter tear and resolved never to let my hands look after themselves again, because they won't do it. I bought a pair of loose chamois leather gloves, commonly called housemaids' gloves : pre-war price 10d. a pair, present price about 3s. a pair, said to be worth a guinea a—but I'm away from the point. I always wear these gloves when cleaning metal because, although "Brasso," "Blue-bell," or whatever else may be used, are wonderful brass polishers, they are equally effective hand-soilers, with such a persistent, clinging dirt, too.

There are people who advocate the wearing of gloves for all work on a car, but it is not practical. Take, for instance, any job which necessitates the handling of small nuts. Gloves dull the sense of touch, and the nut slips out of the fingers. Ten to one it falls into the tray, which is never so clean as it might be, and the time spent in looking for that nut depends on the victim's tendency to apoplexy. Sooner or later he, or she, will emerge vanquished, dirty,

and, most probably, bleeding in several places from the caress of a split-pin.

The Only Remedy.

There is a great deal of work, and dirty work, which must be tackled with bare hands, and there is only one way of keeping the grime from working right in—grease, grease, and more grease. It must be rubbed well into the backs of the hands, the palms, and under the nails.

When it is time to get clean, I always remove the first layer of filth with soap and warm water. If the dirt clings very persistently, a small quantity of "Old Dutch Cleanser" (usually used for washing dishes) works wonders. For the last rinse I use comfortably hot water. I scrub my nails with a stiff brush, and the result is quite satisfactory. I found also that the cuticle of my nails became very hard and brittle. The cause of the trouble is still wrapt in mystery, but it is probably the outcome of constant dabbling in petrol. However this can soon be overcome by frequent applications of cuticle cream, which should be poked right home with an orange-stick.

Perhaps these few hints may prove useful, thereby lessening the lamentations.

For One's Friends.

Why doesn't some wise soul write a book of "Don'ts for Motorists' Friends"?

I have a great aunt Matilda—she was a friend once. She loved motoring, and she would sit beside me in the front. She always carried an umbrella—goodness knows why—and the point of that umbrella invariably found its way down the slot in the floorboards intended to be solely occupied by the clutch-pedal. Anyway, when her umbrella was not there her foot was jammed underneath the pedal itself, which was equally disconcerting. Altogether she had a nasty playful way of throwing her feet about; the engine frequently petered out because she played tangle-toes with the switch. But the climax came when she kicked my tail light out. I was in for it. So was Aunt Matilda. The consequence was we had a few words, to put it mildly, and the world said: "Three pounds and license endorsed."

Their Name was Legion.

Women drivers are still hard at work. I was at Victoria Station the other day, and there I encountered a considerable number of Women's Legion motor drivers about to depart overseas. Very smart they looked, too. Buttons and badges shone with dazzling brilliance, and the women all seemed so cheery and happy in spite of the whispered rumour that their destination was the Devastated Area.

The "Fany" Reunion.

While the work of the Women's Legion motor drivers is just commencing overseas, another motor corps, little known in England, perhaps, has just come home after nearly five years' continuous service in France and Flanders.

This corps, the First-Aid Nursing Yeomanry, commonly called "Fanys," held its first annual reunion dinner the other night. Over a hundred members turned up from all parts of the kingdom and, ye gods! what an array of decorations did I behold! British Military Medals, French Legion of Honour and Croix de Guerre and Belgian decorations, while there must have been hundreds of service medals and chevrons, including not a few coveted red ones.

I wonder how many times the phrase "D'you remember?" was spoken that evening? The air was full of reminiscences.

"No Lady."

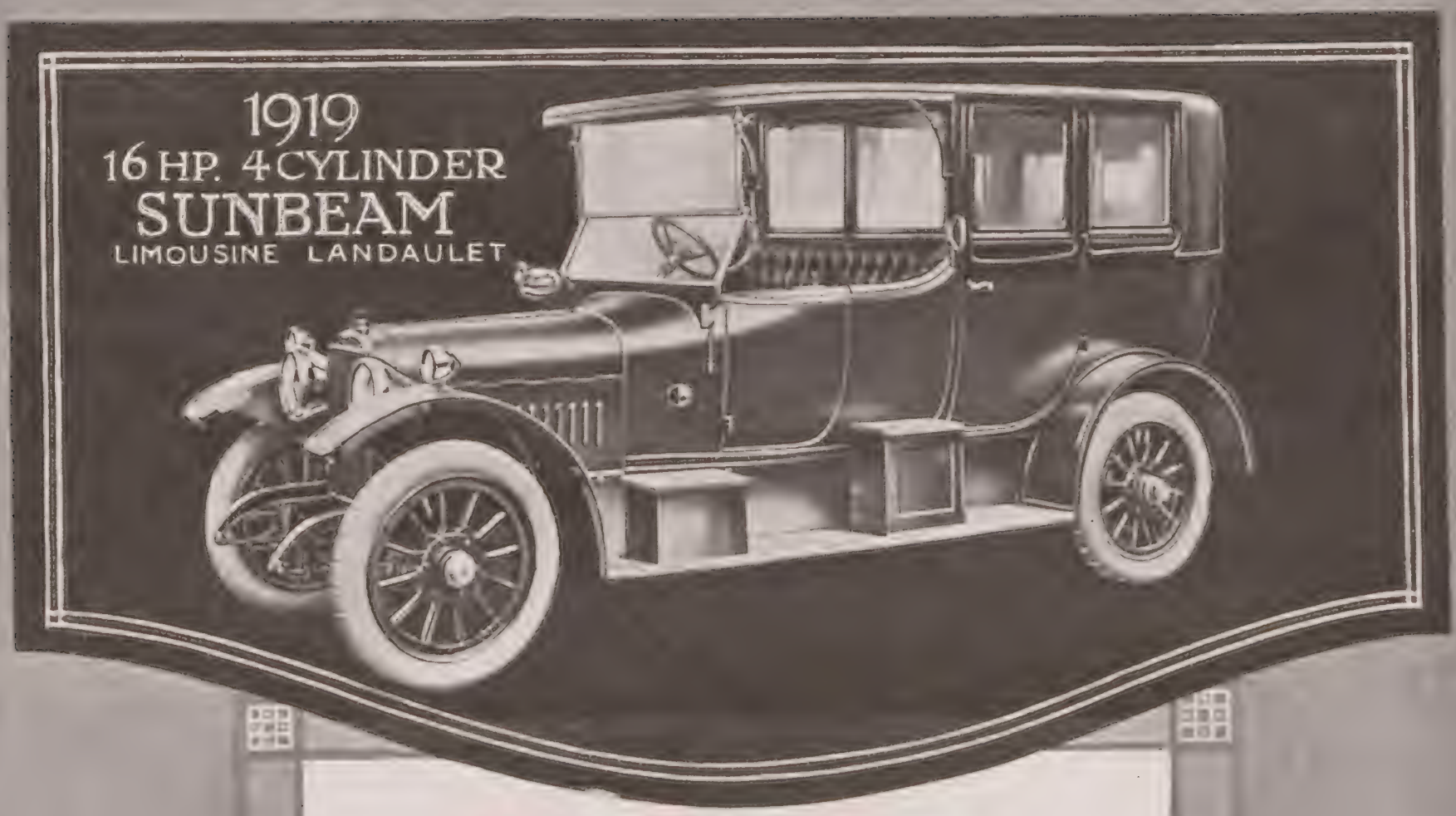
I heard one yarn which may amuse:—

The French Military Governor of a certain district in France issued an order to the effect that no soldier (Belgian or French) was to be seen in the company of a woman. The penalty for disobeying this order was imprisonment. Considerable commotion reigned among the soldiers, but this announcement caused still greater consternation to a Fany whose daily toil included driving a very fat, elderly Belgian soldier to draw the day's rations.

She had no wish to be arrested for promenading in the company of Jean, and so, with usual Fany courage (which has nothing to do with Dutch courage), she called at the French Area Headquarters to explain her position. Monsieur le Général interviewed her. She pointed out her difficulty, but he immediately reassured her. No action would be taken in her case, because—"The Fanys do not count as ladies."

Anyway, ladies or no ladies, they are a gallant little army, and here's to them—the first women to be employed as motor-drivers by the British Expeditionary Force.

The cost of running motor omnibuses has risen from 7·10d. per mile in 1913 to 9·26d. in 1916, and 14·05d. in 1918. This is partially accounted for by the rise in the price of petrol, which cost the L.G.O.C. 7·8d. per gallon in 1913 and 27·5d. per gallon last year, but increase in maintenance charges appears to be the main factor. This item cost £222 per vehicle in 1913, and £451 in 1918. The effective life of a 'bus is stated to be five years.



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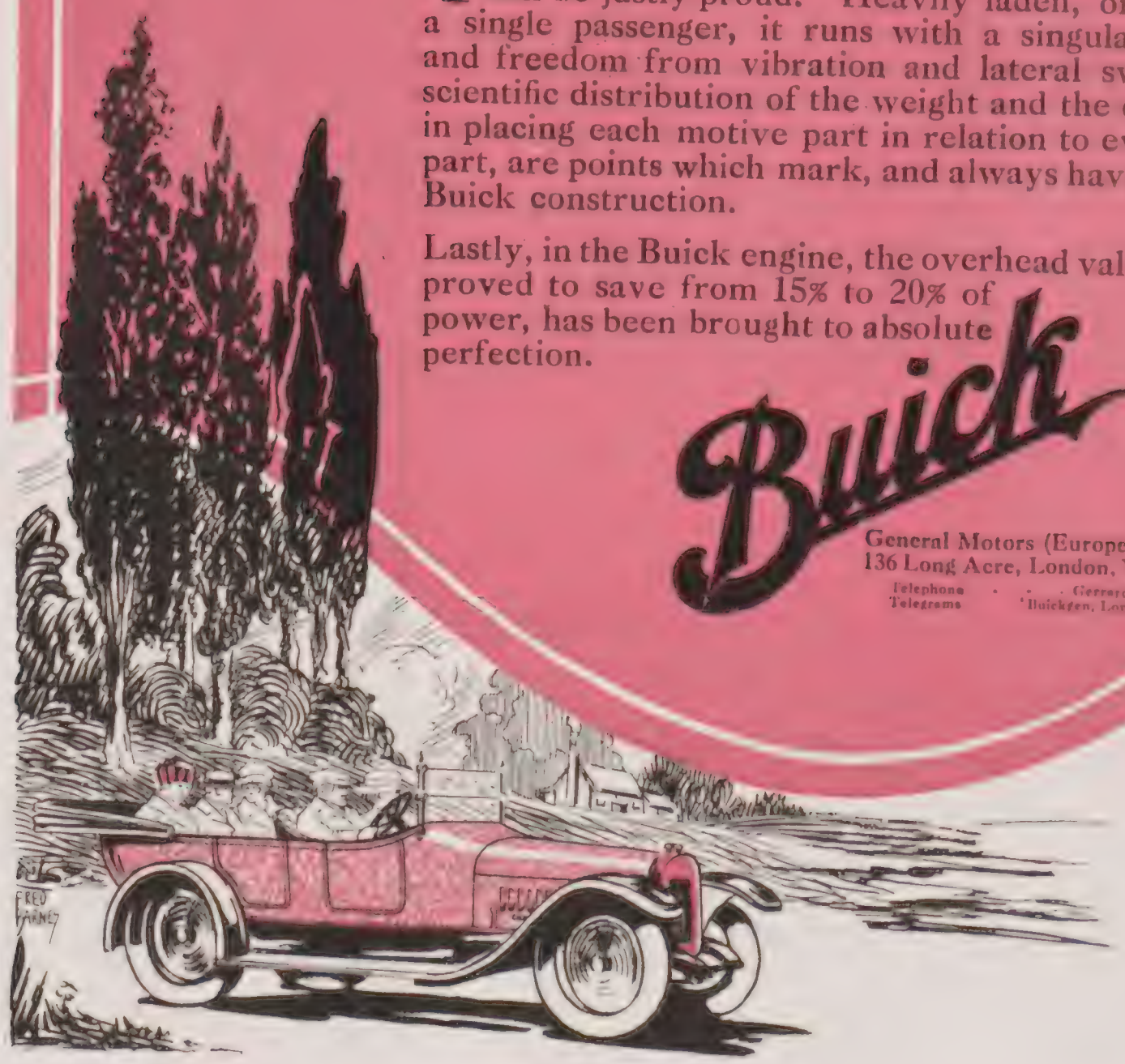
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COMMON TROUBLES.

Some Hints for the Owner-Driver.

TROUBLES and faults of cars when on the road are of three distinct characters—common, uncommon, and remarkable. The common troubles affect all cars, more or less, and most drivers experience at least some of them, if not all, sooner or later.

To drivers of many years of experience with all kinds of cars the common faults of engines, carburetters, petrol pipes, magnetos, electrical wiring, plugs, valves, etc., etc., are so well known that the stoppage of a car on the road, the sounds emitted, and the signs given, provide symptoms which usually enable them to locate the cause of the trouble before getting out of the car. Who has motored for many thousands of miles and does not recognise at once that a car is stopping for want of petrol, or that a tyre is flat, that an engine piston is about to seize, a plug porcelain has cracked, or that a valve-spring has broken? All these and more give out signs or sounds that are unmistakable to the expert driver.

In many cases the troubles are actually anticipated by drivers before they occur, because they know that certain details are defective and are bound to come to a crisis. Of such may be mentioned a frayed wire or one nearly broken, a defective sparking-plug, a broken terminal, an almost worn-out platinum point, a faulty petrol-pipe union, a worn-out rubber water-circulation tube, and so on. The uncommon troubles, often unheard-of, singular and remarkable, are of a very varied character.

Fortunately they happen rarely. Some happen to many, some to few, and not at all to others. To localise some of them often puzzles the experts in the works or repair-shops. I do not refer to breakages or structural or design defects, such as a broken engine crank-shaft, a broken rear axle or transmission shaft, big-end bearings melted out, or a broken connecting rod or driving pinion, though these may come under the head of uncommon troubles and are generally easily located.

But there are faults which cause considerable trouble, or emit nasty noises, or which result in loss of engine-power, faulty ignition, abnormal consumption of fuel, or faulty engine starting and so forth. Ofttimes these uncommon troubles result in research in wrong places, and parts are suspected which have nothing in common with the real cause of trouble, every part of the engine or car being suspected but the right one.

For instance, a magneto I had in 1910–11 was suspected as being the cause of faulty and erratic ignition. It was re-timed and adjusted by two experts without avail; I had it off and on the car many times and spent several evenings on it. Everyone said that the magneto was at fault. A garage expert said he would put it right, "no cure, no pay," but he completely failed to remedy matters in the least, though he sent me in a bill for £1 14s. Eventually I myself discovered the real cause of the trouble. It lay in a timing gear-wheel badly worn and loose on its shaft. The magneto was perfect, though every expert had declared it faulty.

In another case no one could remedy a nasty engine "knock," which only revealed itself at moderate and low speeds. Big ends and gudgeon-pins were suspected, loose pistons, crankshaft bearings, and every possible cause but the right one. The engine was taken down and overhauled at several garages. The fault was eventually traced to the fact that the engine flywheel had a slight play on the shaft, owing to the keyway being somewhat worn.

I have already hinted at a few of the minor and common troubles, but there are many others of which a little knowledge may be desirable. Tyre troubles are too well known and dreaded to need discussion—detachable wheels and rims and the Stepney have robbed them of many of their former terrors. To avoid bursts always use an inside gaiter the moment a hole in a tyre is discovered, for the air in a tyre always concentrates its pressure on the weakest spot. A chain is only as strong as its weakest link, and a car tyre cover is only as strong as its weakest place.

An air-lock in the petrol pipe may be avoided by keeping a good head of petrol in the tank, and never allowing it to get empty, or even nearly so. If this precaution has been neglected, however, an air-lock may be remedied by unscrewing the petrol pipe union next to the carburetter until petrol flows out. Then the union nut should be screwed tightly again, the air being liberated from the pipe with the flowing petrol. This is a puzzling trouble to a novice, and difficult to discover, unless suspected or known as a contingency. Air has to enter the tank by a small hole, usually in the filler cap, to take the place of the disappearing petrol, otherwise a vacuum occurs in the tank which prevents the petrol flowing to the carburetter. If a vacuum is suspected, clear the hole in the filler cap, and never place wet or oily rags on the top of it. This will prevent air from getting into the tank. This natural phenomenon was utilised by a clever story-writer in the *Strand Magazine*. The hero plugged up the air-hole to get the car to stop, and came up later as the expert and Good Samaritan, thus gaining an introduction to the heroine and his future wife. Placing wet rags on the top of the tank has stopped my car twice, and the vacuum has been known actually to "buckle up" a petrol tank.

Too rich a mixture of petrol and consequently an abnormally hot engine, or the latter symptom alone, may be due to several causes. Firstly, an insufficient supply of water in the radiator or engine; secondly, a punctured carburetter float, if of metal, or a "petrol-logged" one (*i.e.*, saturated) if of cork; thirdly, a stoppage of the air supply pipe to the carburetter; fourthly, lack of sufficient oil; fifthly, too much carbon deposit in the engine combustion chamber or on the piston tops; sixthly, water-circulation prevented from any cause, such as seized water-circulation pump, or a stoppage in the circulation pipes. A broken fan-belt, or one too loose, and therefore slipping, or dirty sparking plugs may also cause an engine to overheat.

If an engine is difficult to start, or utterly fails to do so, first see that there is a proper spark at the plugs. It is also necessary to see that the switch is on properly, as sometimes it gets switched off accidentally. Also see that the petrol is not shut off, and that a proper supply is getting to the carburetter. Sometimes water gets into the petrol tank, or the carburetter float-chamber, and this is a fruitful

cause of engine-starting difficulties. In cold weather it is a good plan to pour boiling water on the inlet pipe (some pour it all over the carburetter, in addition). To fill up the radiator with boiling water has a good effect.

Broken valve-springs happen but seldom, but when they do they are troublesome. It is always advisable to carry a couple of new valve-springs and a valve-lifter, as with the latter new springs can soon be fitted. The symptoms of a broken valve-spring are shown by short explosive noises, spitting and hissing, and loss of engine-power. Plug troubles are varied, a common fault being that the porcelain insulation cracks and the current acts through the crack instead of going to the plug points, the engine missing fire. A crack in the porcelain may be unsuspected, if slight, and may need careful examination before discovery. But if the crack is apparent there will be a hissing sound when the engine is running from the compression escape. A new plug is the only remedy. It is necessary at all times to keep plugs clean, and to get the best of running the sparking points should be neither too far apart nor too near. Experiments should be made to get the correct space between the points.

If an engine lacks power, or runs irregularly at low speeds, the compression may be poor owing to leaky valves which require "grinding in." The piston rings, or the pistons themselves, may be worn, allowing compression to escape down the cylinders. A weak exhaust valve-spring, or too great a clearance between valve stems and tappet rods, are also causes of lack of engine-power.

All electrical wires, whether of high or low tension, should be in good order if the best results are to be obtained; oil should not be spilled on them or the insulation is spoiled. They should not be frayed or bent so as to break in two, and terminals should be perfect, as also should be the connections to the plugs, magneto, etc. All badly worn wiring is apt to "short" on engine and other metal parts. The wire terminals at the plugs have a bad habit of shaking loose, and these should always be kept tightened up.

Nasty and aggravating engine "knocks" may be caused by the ignition spark lever being too far advanced or too far retarded (though this latter should be impossible if all rods are perfectly adjusted); too much carbon deposit on the piston heads, the engine being overheated from too rich a mixture; or some other cause. A very bad and continuous "knock" in the engine may indicate a loose connecting-rod bearing, or a loose crank-shaft bearing, each of which is serious enough to demand a complete stop, as the engine must be taken down for either fault to be remedied.

If there are nasty squeaking noises about a car these may almost certainly be due to the spring shackles requiring oil or grease, or the various steering rod joints needing lubrication. Mudguards, running boards, or valances may also squeak or rattle by just grazing or rubbing against each other. These must be separated to give sufficient clearance to remedy this, or the places which touch each other can be visited with an oil-can. Nothing is more annoying about a car than these rattles or squeaks, and yet very little will remedy the evil. Mudguards must be kept well tightened up to the stayrods, as nuts often work loose underneath; for testing purposes the mudguards should be thumped with the closed fist.

Magneto troubles (resulting in a loss of current entirely, or a weak current at the sparking plugs) are few in number (unless serious defects) and are simple to understand and to remedy if one is familiar with the subject. The most common are due to worn carbon pencils, which collect the current from the armature ring or distribute the current to the distributer. These may be overcome either by fitting new carbon brushes or pencils, but an easy remedy is to pull out the springs a little more and so force the carbon brushes into firm contact. Sometimes, too, the fibre insulating brushes which surround the various screws swell and stick, particularly the one on which the bell-crank lever holding the platinum point swings. The platinum points should open and close properly by the action of the cam, or the current ceases to be diverted.

The foregoing enumeration includes most of the troubles which beset motorists at times, and may be of service in suggesting remedies.

J. T. WARD.

Dover Hill.

IN the early days of motoring the road which winds up past the castle, on the way from Dover to Deal, was regarded as something very formidable. Nowadays its gradient of 1 in 11 is regarded with less concern, and certainly the car shown in our



BREASTING DOVER HILL.

illustration appears to be breasting the rise quite comfortably.

The famous castle, so prominent a landmark to all who cross the Channel from the French side, is still standing despite the combined efforts of Zeppelins, seaplanes, aeroplanes, destroyers and submarines. The town was bombarded 29 times in all, 185 bombs being dropped therein, while 61 shells were fired into it in a single night.

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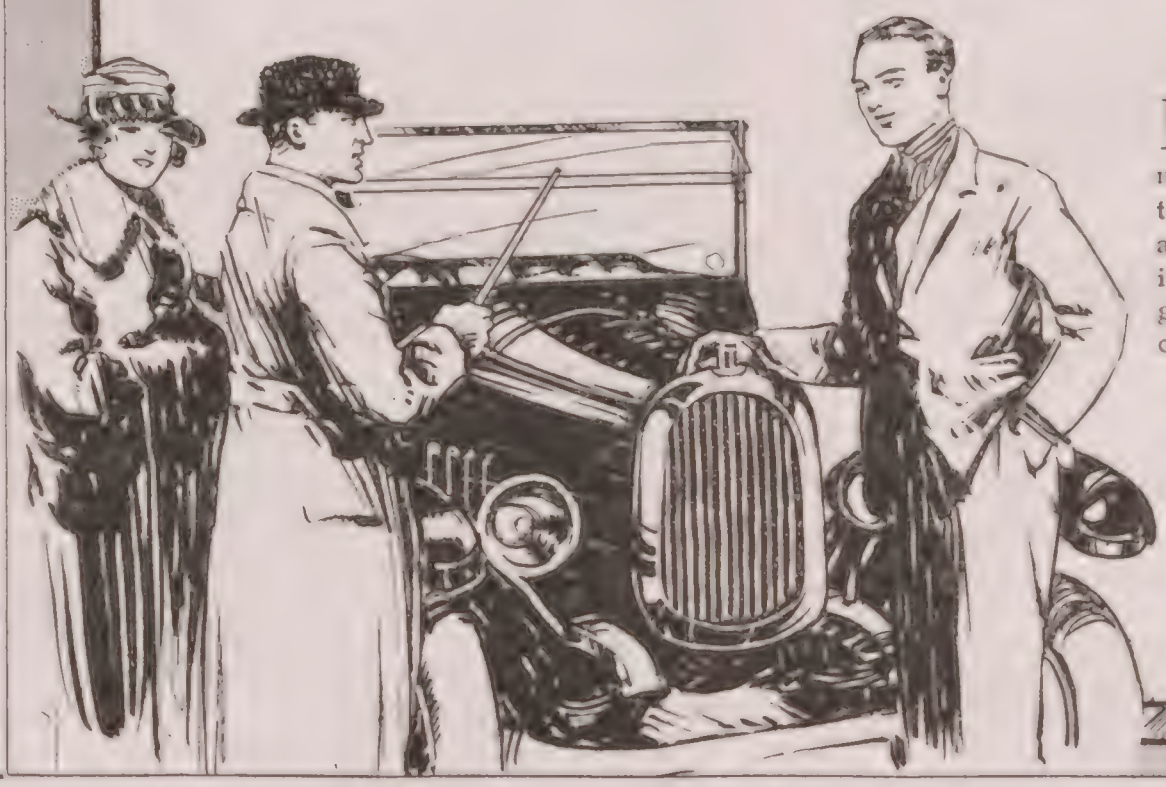
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"MOTOR-SCOOTING."

THE motor-scooter has opened up quite a new aspect of personal transport. There are vast numbers of people who, whilst thoroughly appreciating taxi-cabs and motor omnibuses, and thereby being keen motorists, do not want to have anything to do with mechanical details. They want to be able to use a motor vehicle as a rapid and cheap means of getting about.

It is to these people, as well as to ladies, sportsmen and business men, that the scooter appeals, and the man who lives twenty minutes' walk from a station might find a motor scooter a god-send. If properly designed, it is totally different from a motor bicycle. Motor-scooters require no special clothing; they are perfectly clean, and they can be lifted easily by one hand up a flight of steps, with the handle folded down for packing away in some corner. When wanted they have only to be put on the road and stepped upon, and they are off at once without trouble or without the necessity for technical knowledge.



DR. A. M. LOW AND A NORLOW MOTOR-SCOOTER.

Scooters have now been made which are simply small motor-bicycles. A moment's consideration will show that a motor-cycle no lighter than the original light-weights and yet with 14 in. wheels travelling at twenty miles an hour over anything but a perfect road would be impossible. If, however, the scooter is sprung, and the passenger stands upon it, no undue shock is felt, and if the drive is by the front wheel skidding will not occur. As soon as two-speed gears, seats, and extra wheels are added a scooter merely becomes a badly designed motor-cycle, requiring a garage or extra space to store it.

The Norlow motor-scooter is the result of the most careful experimenting, and has been designed by Sir Henry Norman and Dr. A. M. Low. The whole machine is novel, but the experience gained with other scooters has been made use of, and the design has been kept absolutely neat and clean. It in no way resembles a motor-cycle, and neither is it meant to fulfil the same purpose, because it can be ridden by anyone of any age without practice and can be stored in any flat. The Norlow scooter is similar to the type which Sir Henry Norman has employed to attend the Houses of Parliament, and its use, therefore, need not be feared by anyone in the worst traffic.

The details of the Norlow scooter are very simple. It is fitted with a special two-stroke engine, designed by Dr. A. M. Low, the whole engine being made of aluminium, with a steel liner to the cylinder, the bore and stroke being 60 mm. by 60 mm. The drive is by a concealed chain (which is instantly adjustable) through a 5-in. diameter clutch, which can be slipped as much as required. It is mounted on ball bearings, which are used throughout, except in the main bearing of the engine, which is over 3 in. long. The whole engine is balanced and fed from a carburetter designed to suit it, lubrication being by Petroil, which is found more simple than any other on such a small engine.

For ignition the new coil system, which is becoming so popular upon cars, has been adopted, as it is quite as reliable as the magneto, and makes for lightness and ease of starting. Dry batteries supply the current for ignition and lighting, and they can be replaced in a moment, like a pocket flash-lamp.

The simple coil system is very easy to look after. As may be seen from the illustration, the drive is straight on to the front wheel through the chains, and this avoids skidding. The brake, which is applied by lowering the handle of the scooter (an upward movement of the handle starts the scooter off), is an internal expanding type on the front wheel.

Compression release and throttle are by twisting the handle-bar grips, their positioning being practically automatic, so as to take any worry of mechanism entirely away from the user. Large pneumatic tyres are fitted, and the frame is sprung properly by leaf springs, although the weight of the complete article is about 58 lb. only.

To Protect the Springs.

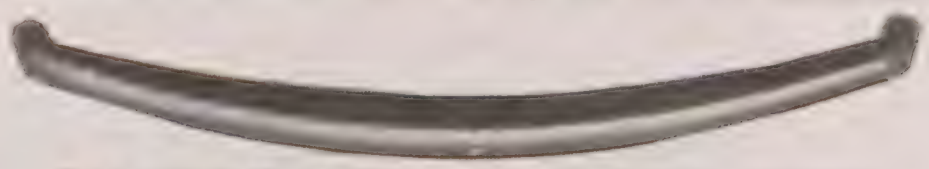
Considering the care which is taken, both in the original design and in the selection of material, that motor-car springs shall be flexible and smooth-working, it is rather remarkable that greater protection from rain and grit is not provided on the average car.

There is not much doubt that the majority of motor-owners will still prefer that the leaves of their springs shall be maintained in the condition in which they left their manufacturers' hands. Spring cleaning, if performed thoroughly, however, is not a pleasant operation, and consequently any device which will defer the process without interfering with the efficiency of the spring should be welcomed.



THE WEFCO GAITER.

One's mind naturally jumps to the idea of a gaiter, and this is just what is provided by the Wilcot (Parent) Company in the Wefco Spring Cover. This is a particularly neat leather arrangement conforming to the shape of the spring, and by its use the leaves are



THE SPECIAL PATTERN FOR FACTORY FITTING.

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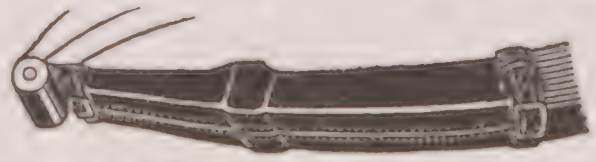
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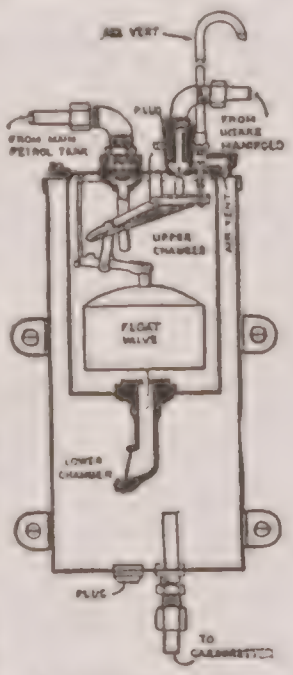
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The "Autovac" Petrol Feed System.

THE tendencies of modern body design make the employment of gravity-feed petrol systems a very difficult matter. Pressure feed was obviously one of those things that could not be permanent, for it was so easily put at least partially out of action, and every joint in the system always had to be perfect. Although it does not employ pressure at all, and gravity only to a minor extent, the vacuum system of petrol feed combines many of the advantages of both. The main petrol tank can be carried anywhere on the chassis, and a good head of petrol is ensured under all normal positions of the car, while there is nothing about it that requires manual attention.



A Sectional View.

The "Autovac" apparatus to ensure vacuum feed is illustrated herewith, and the diagram makes its working fairly clear. A small cylindrical tank is mounted under the bonnet so that its lowest point is well above the float chamber of the carburetter. The tank is divided into two compartments, into the uppermost of which is led a small pipe from the induction pipe of the engine. When the engine is started the suction in the induction pipe causes a partial vacuum in this upper chamber, and petrol is drawn into it from the main supply tank—with which it is connected, obviously. As soon as the fuel has reached a certain level, a float causes the closing of the valve at the entrance of the pipe to the engine, and thus the exertion of suction is stopped. At the same time a valve is opened which admits air into the chamber, and under its pressure the petrol falls into the lower chamber, whence it passes to the carburetter by gravity.

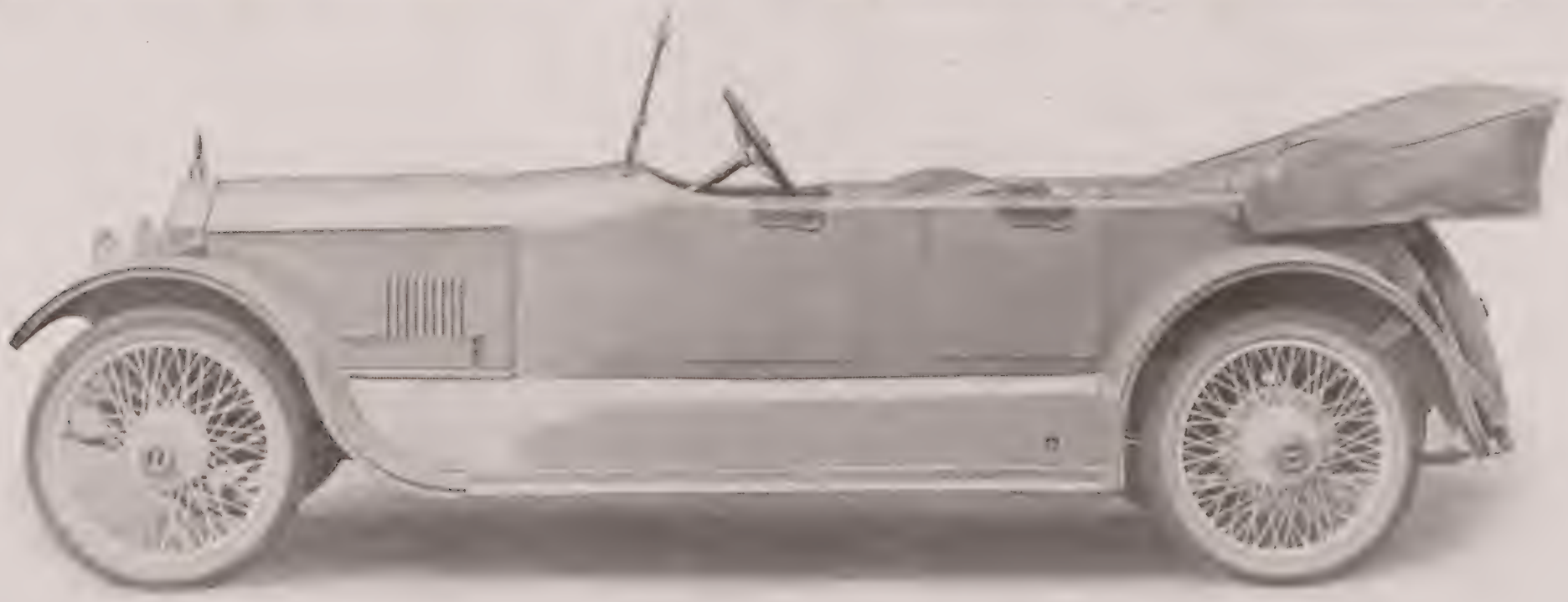
As the petrol falls from the top chamber to the lower, the float in the top chamber also falls, the valve opening to the atmosphere is closed and that to the "suction pipe" is opened again, and so the cycle of operations is repeated. The action of the float may be compared to that of the float in a motor-cycle carburetter employing "top feed," except that there are two valves to be operated instead of one, and that as one is opened the other is closed.

A similar device to the "Autovac" was used on the German Brennabor car, only two or three samples of which came into this country just before the war, and the same system is used on nearly all first-class American cars. Just what is thought of it over here may best be judged from the number of first-class cars that are adopting it.

The Roamer Car.

NOTABLE among the new arrivals from the United States is the six-cylinder Roamer car, which appears to be a good example of the better-class American automobile—a fact which becomes apparent when it is stated that the price of the vehicle complete is expected to be in the neighbourhood of £900. Technical details of the chassis have been briefly published in "THE MOTOR-OWNER" already, so that it is only necessary now to mention that although the car is nominally of 24-30 h.p., its six-cylinder $3\frac{1}{4}$ by $5\frac{1}{2}$ inch engine is reported to develop 54 brake horse-power at 2,250 revolutions. The practice of embodying an engine of well-known make in the chassis rather than building the complete machine in the car factory is far more common in the States than it is here, and the Continental engine appears to be the generally accepted motor for the purpose. It is interesting to note, therefore, that this popular engine is included in the Roamer specification.

It is intended to import—William Cole and Sons, Limited, being responsible for the handling of the cars in this country—both complete cars and chassis, so that British purchasers will have the opportunity of securing either the standard car with an American body, or of selecting coachwork to suit their own ideas. Incidentally, the models at present in England, one of which is illustrated on this page, appear to be an improvement upon the average American car so far as carriage work is concerned, the lines being particularly clean and workmanlike. The cost of the vehicle with a British body will naturally be higher than that of the standard car, but it is not expected that the addition, for a touring car, will run into more than £100.



THE 24-30 H.P. ROAMER WITH STANDARD BODY.

THE HASTINGS ROAD.—By ALLAN PHILLIP.

OTHER roads may boast a greater mileage or trace a wilder way, but perhaps there is no route from London that holds a higher place in the esteem of the tourist than the Hastings Road. From the green fringe of metropolitan villadom to the cliffs overlooking the sea it runs between verdant meadow-land and woods, with far-reaching visions of the undulating hills and dales of Kent.

A glance at a contour book shows that it is a hilly road, that there is scarcely one level mile in the sixty-three;



THE OAST HOUSE NEAR BEWL BRIDGE.

and those who nurture the spirit of aversion toward such things will favour the way to Bath or Holyhead, or the somewhat monotonous road through the heart of Essex; but the early dread of hills has long since ceased to haunt the mind of the motorist, and the Hastings Road, with its infinite variety and ever-changing panorama, with its long slopes to the valleys and its sweeping ascents to the hill-tops, gives inspiration and keen relish to the joy of going.

Sevenoaks provides the one great hill that even now may test the climbing ability of a feeble car; but the climb is on the homeward way and there are other routes, should one desire, for River Hill has memories for some who have faced its long, winding gradient unprepared.

Not far from the brow stand seven oaks at the roadside, and their predecessors are supposed to have some connection with the namimg of the town. History centres in the great mansion of Knole and runs back uncertainly to the reign of John. Knole is the show-place of to-day. Statisticians rejoice in the reckoning of its 540 windows, 365 rooms and 52 stairways, the number of the rooms equalling the days of the year, and the stairways the weeks.



A FINE STRETCH ON THE HASTINGS ROAD.

Five miles from the summit of River Hill, in the bed of the rich valley of the weald of Kent, lies Tonbridge, on the banks of the Medway. There are neither walls nor moat to-day to guard the town, and whatever popularity it may once have possessed has now passed to its near neighbour, Tunbridge Wells, and Tunbridge Wells may easily be reached by a four miles run from Pembury.



A DANGEROUS CORNER OUTSIDE SEVENOAKS.

(The road bends sharply to the left. Note the white boards affixed to the gates as a protection against war-time darkness.)

The way is quiet now, with little sign of habitation, and with green stretches of field and meadow, and graceful clusters of the hops that abound about Lamberhurst and right through the heart of Kent. It is recorded on exact authority that the hop was first grown in this country during the reign of Henry VIII.

Lamberhurst is a fascinating little village with irregular

houses of quaint design. The river Teise gives excuse for a bridge, and the bridge adds to the picturesqueness of the village. It is a quiet place to-day, and it requires a certain elasticity of imagination to believe that this was once, in its way, the " Black Country " of the South, that charcoal furnaces here poured forth their smoke, that iron ore was



A TYPICAL SUSSEX VILLAGE: LAMBERHURST.

smelted and munitions of war were manufactured. The great Iron railings that once completely surrounded St. Paul's Cathedral were cast at Lamberhurst, and their weight was two hundred tons.

It is not now the furnace that is the feature of the land, but rather the oast-house where the hops are gathered in and prepared for market. One of these oast-houses, of imposing dimensions, and with cowls adorned with horses rampant, may be seen just outside the village, and is the most striking of these buildings along this road.

From Bewl Bridge the way rises gently to Stonecrouch and Flimwell, and thereafter passes finally from Kent into Sussex. About this region once spread Seacox Heath, a famous rendezvous of smugglers. Why they should have chosen a site so far removed from the sea may be an open question; but doubtless they knew their business, and found this wild heath land safer for their vocation than the regions nearer the coast, where the watchful eye of the law might more easily detect their movements and the presence of civilisation impede their task.

There are delightful views across the low-lying country from the heights along this route, especially if seen under lowering skies when the visibility is good. The road here had the reputation in olden days of being the worst section of the whole journey from London to the sea, and the marshy land about Robertsbridge is suggestive of a tragic condition in the days when roadways were largely left to make themselves. At Robertsbridge the road requires the services of seven bridges to carry it safely across the swamps. Thereafter it climbs to John's Cross, where the way divides, and the road bearing to the right, which is the modern Hastings Road, is almost the only straight portion of the route, reaching Battle in four miles. The left hand branch is the old coach-road, and adds a mile to the distance.

Perhaps Battle, with its famous abbey, is the most interesting place on the road to the modern tourist, and not without reason, for here is the Field of Senlac, where the fortunes of our land were changed in the defeat of Harold. It has been called "the catastrophe of Senlac," and perhaps it was; but one often wonders what our land would have been like, and what its historical record, had William of Normandy been driven back across the Channel or slain on the fields of Sussex.

Such thoughts may fill the mind of the traveller as he views the place where Harold fell in his brave but almost hopeless effort to drive off the invaders. The march to Stamford Bridge to defeat the invaders of the north had been brilliantly successful, but the exhausting southern trek, to meet a foe awaiting him with troops fresh and eager for the fight, made the task an all but impossible one. Here, however, breathes that spirit of our land that has led to deeds of heroism and superhuman valour in days far off and near at hand.

Beyond Battle the car surmounts the last hill, nearly 500 feet above the sea, and then drops somewhat steeply to Hastings and the coast, and the breath of the fields, rich



THE MAIN STREET, ROBERTSBRIDGE.

with the scent of flowers, gives place to the clear salt winds from the sea and the odour of the weed along the shore; the green of quiet meadow lands is changed for the shingle of the beach and the glitter of the restless wave; and, save for that portion of the road that runs amid the varied architecture of the Metropolis, the whole sixty-three miles of the Hastings Road are crowded with diverse excellencies, rare old memories and nature's choice delights.

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The "Porte des Dunes."

FAMILIAR as is Boulogne-sur-Mer itself to tourists who take their cars abroad, it is probable that but few of them will recognise the subject of the accompanying illustration. By the time the average car-owner has seen his car off the boat and passed it through



THE "PORTE DES DUNES" IN THE RAMPARTS OF BOULOGNE.

the customs, he is eager to get going on the road and disinclined to explore what is not, in the main, a particularly inviting town. None the less, this picturesque old gateway is to be found in Boulogne; it is known as the "Porte des Dunes," and provides a right of way through the ramparts.

NOTICE TO CONTRIBUTORS.

The Editor will be pleased to consider contributions of special interest to the car-owner, provided they are of high quality and in every way suitable to the magazine. Short illustrated articles are preferred, dealing with any aspect of private motoring, either as regards touring or the home management of the car. First-class snapshots of roadside scenes or incidents are particularly desired. All photographs and sketches should be fully titled on the backs and bear the name and address of the sender.

Contributions should be addressed to the Editor of "The Motor-Owner," 33, King Street, Covent Garden, London, W.C.2., and should be accompanied by a stamped, addressed envelope. While every effort will be made to return them if unsuitable, the Editor cannot hold himself responsible in case of loss or damage.

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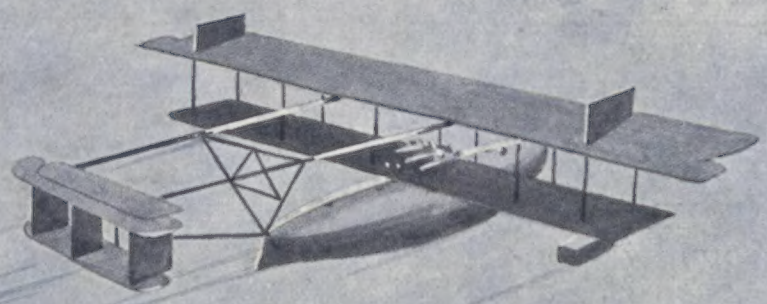
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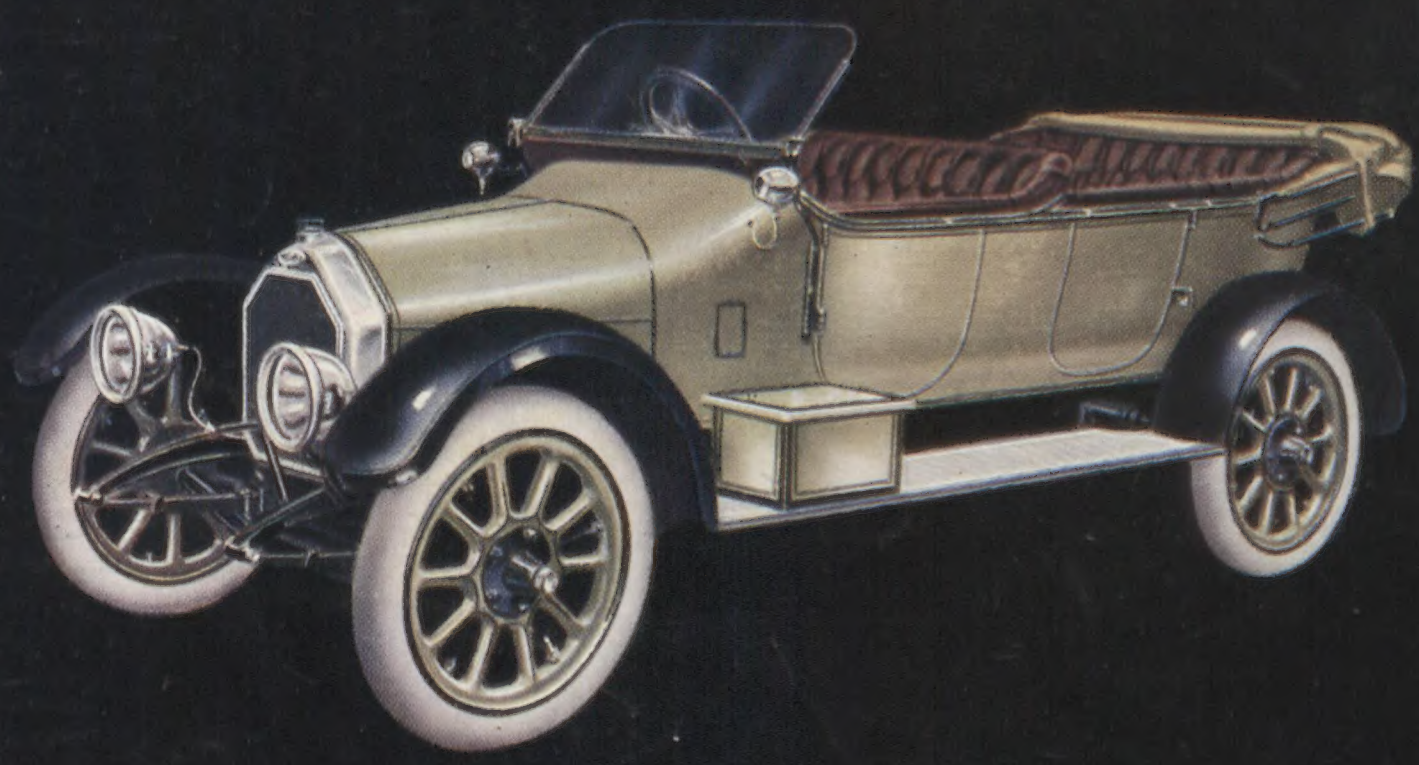
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